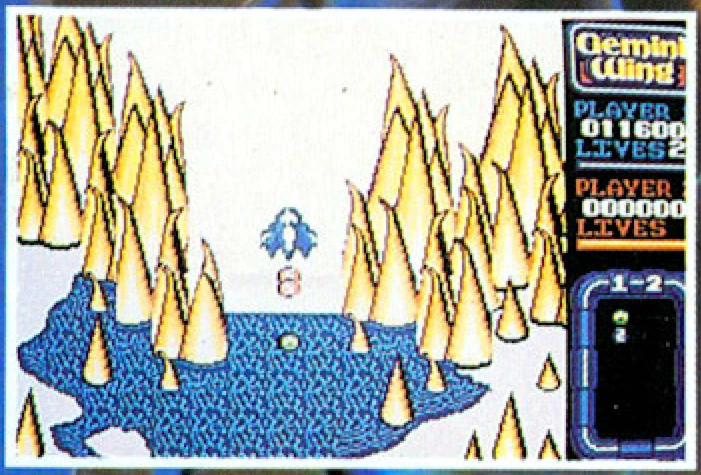
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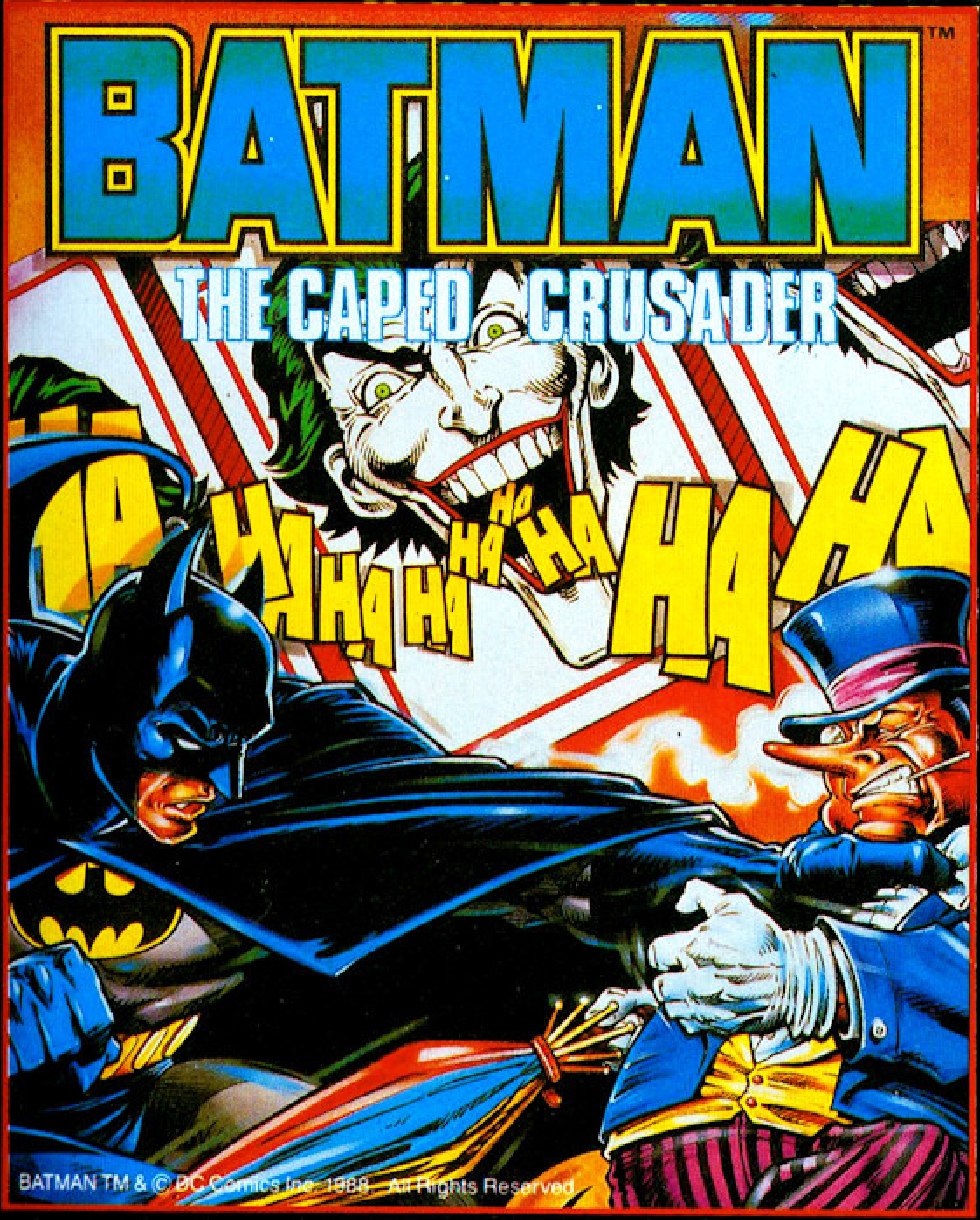
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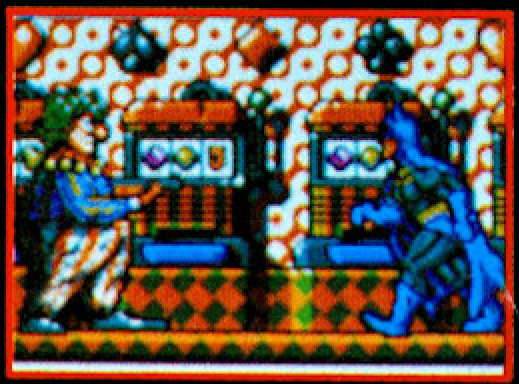
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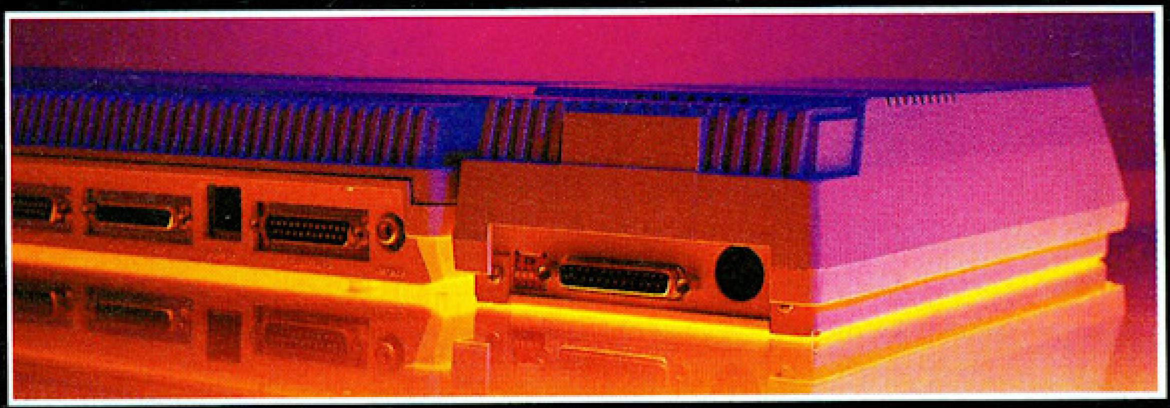
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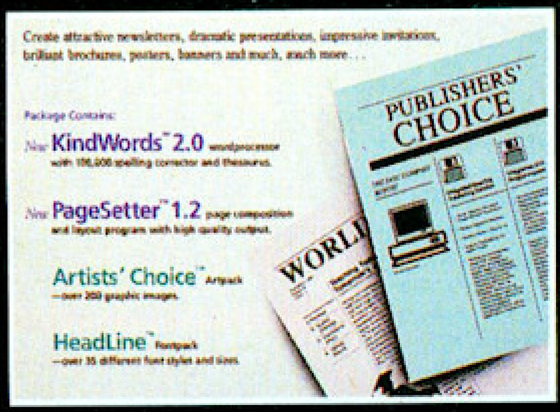
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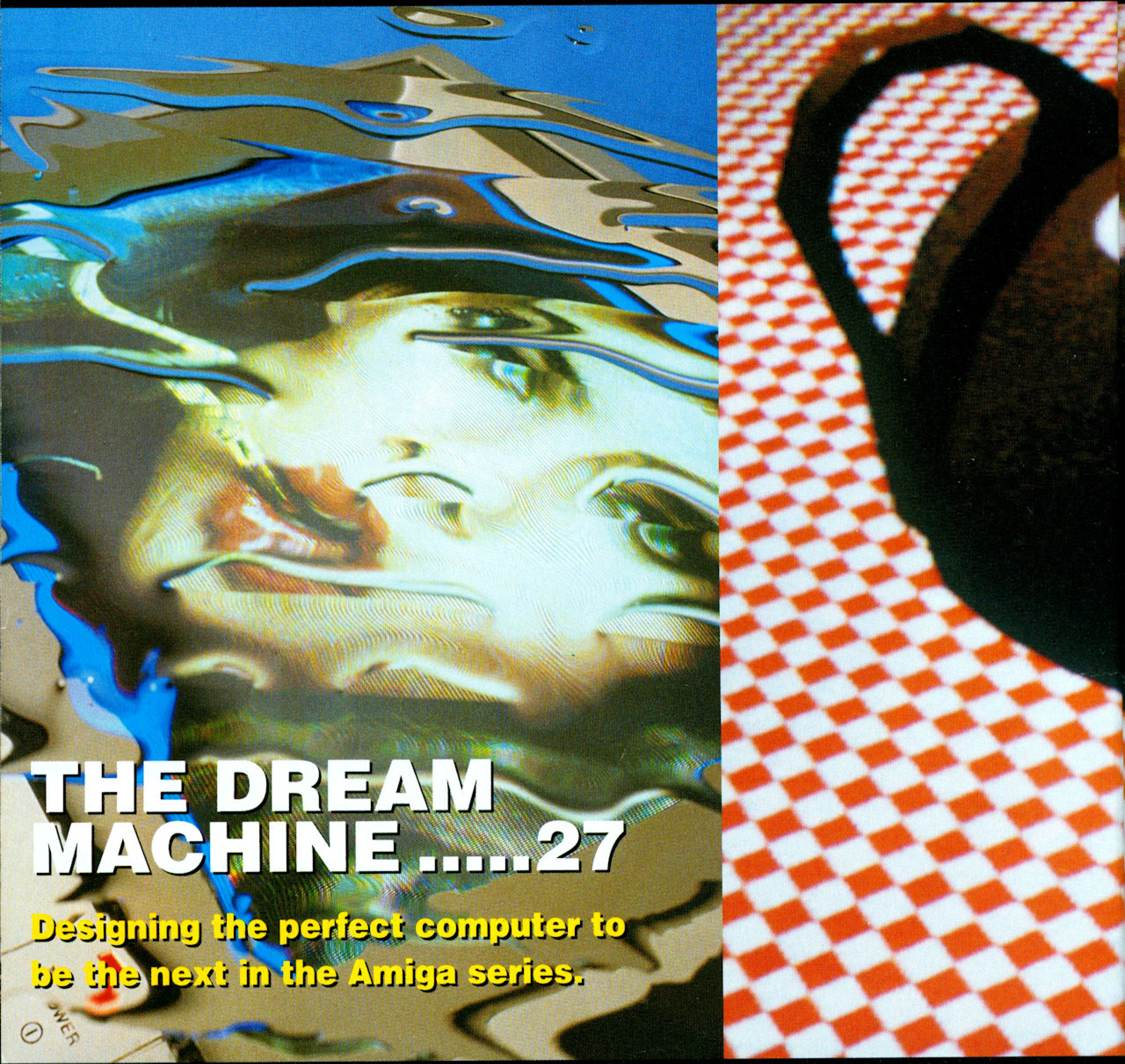
VIDEO......85



A590 HARD DISK...........13



DTP..........71



THE DREAM MACHINE 27

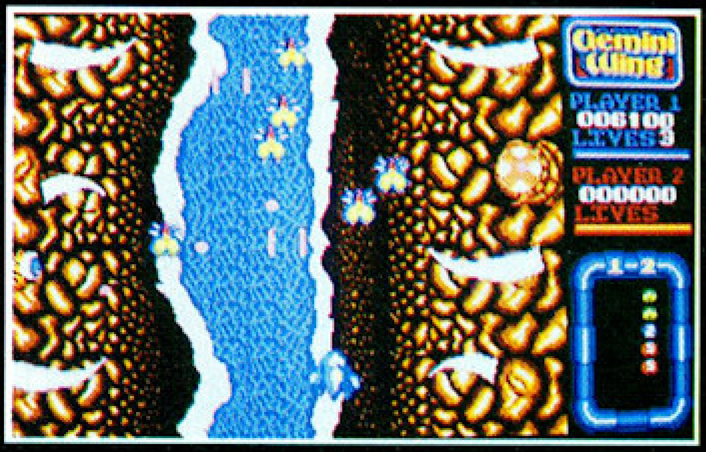
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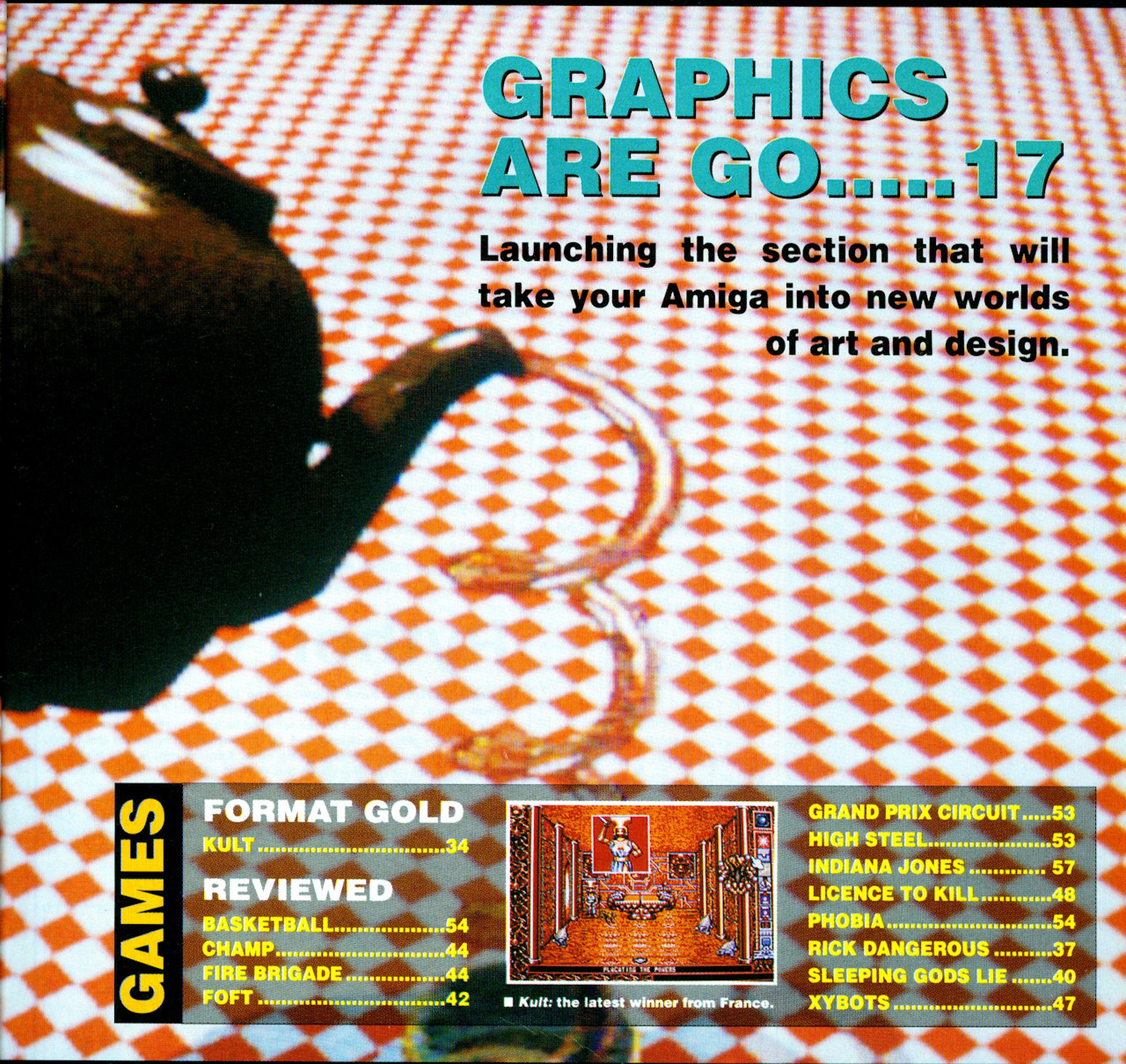


■ In Previews: all the latest games news...

REVIEWS



■ Virgin's *Gemini Wing* swings in full effect.



■ *Kult:* the latest winner from France.

AMIGA FORMAT ISSUE *2 SEPTEMBER 1989*
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SHOWS GALORE

There is no definite date yet for the next Commodore computer show, but two other shows of interest to Amiga owners are on the horizon: the PC Show from 30th September to 1st October and the Computer Shopper Show from November 24th-26th.

The PC Show has traditionally been the biggest 'leisure' computer show of the year and this year is again at Earls Court. Virtually all the major software houses and hardware manufacturers will be there, showing their wares.

The Computer Shopper show is a new one to the calendar but the organisers are flagging it as 'the UK's largest event for Commodore users.' It's taking place in the Great Hall at Alexandra Palace. At the show will be the 'Wonderful World of Commodore' – a sort of show within a show.

We will carry more detail on exactly who is going to be at the PC Show in the next issue, and the CS Show in Issue 5.

MICROPROSE ABOUNDS

Sleepy Tetbury is a positive hive of activity at the moment, now that the 'Prose have inherited all those Telecomsoft games that were in the pipeline when the company was sold. Take *Starlord*, for example: Mike Singleton's Maelstrom are beavering away on the computerisation of this immensely popular PBM (Play By Mail) game that promises to be more complex and have a bigger game task than *Elite*.

Third Millennium – a production company set up within Maelstrom – are also working on two games due for release on the 'Prose's Micro Status label. *Survivor* is set in a post-holocaust desert world where you have to cultivate land and set about rebuilding the community. You can battle with neighbouring settlements, trade with them, dabble in politics and loads of other things in this strategy game.

Then there's *Midwinter*, a light-sourced solid 3D game set in the 21st Century that's also due out on the Micro Status label. In the game the world has suffered a climatic crisis and left most of the world covered in ice. Society has broken down and it's your job to protect an isolated group of villages from attack by the evil dictator from the north.

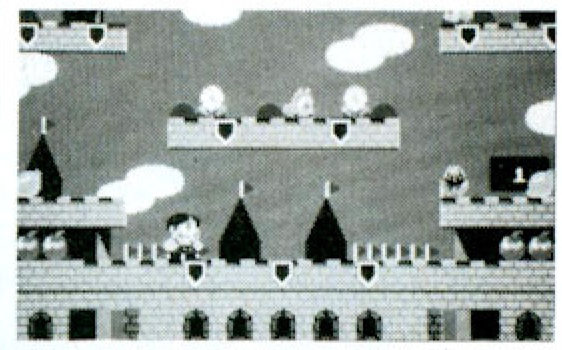
Talking of global crises, the big M have gone all green and teamed up with Greenpeace, the international environmental pressure group, to bring us *Rainbow Warrior: The Computer Game*. Named after the Greenpeace ship that was oft in the news for harrying whaling fleets and such like, you'll play the part of a Greenpeace supporter determined to protect wildlife and stop the pollution of the natural world. The French government are unavailable for comment on this one at the time of going to press.

On the racetrack there's *RVF*, a motorbike simulation based on... wait for it, wait for it..' the Honda RVF. And a game that's creating something of a stir months before it's scheduled release - *Stunt Car Racer* by Geoff Crammond, the man behind *Sentinel*. There are going to be eight gruelling tracks to race round and four divisions of drivers, so don't expect it to be easy!

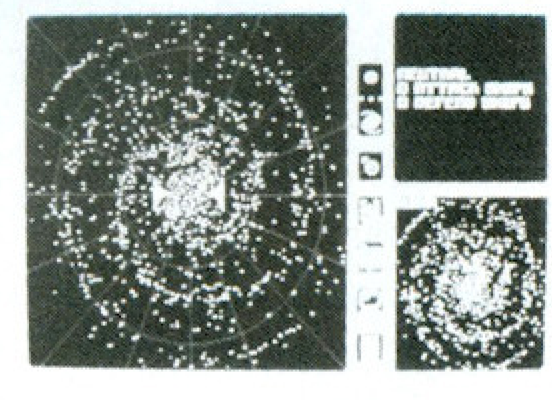
Then there's *Tower Of Babel* from Pete 'Tau Ceti' Cooke, a puzzle(ish) game where the player controls a gang of spiders clambering around some towers.

On the Firebird side, coming up is a martial arts game called *Oriental Games* where you can take part in Sumo wrestling, Kendo, Kung Fu and Hollywood Rules (whatever that might be!) Action fans will be pleased to learn that the coin-op conversion of Sega's *Action Fighter* is well under way, so you'll soon be able to bomb and blast your way through four stages of vertically scrolling mayhem.

Staying with coin-ops, *Rainbow Islands*, the *Bubble Bobble* sequel, is nearing completion where Bub and Bob are squaring up to face the 'Prince of Darkness'. Last but not least, is another coin-op conversion, this time of the Irem machine *Mr Heli*. It's a cute horizontally and vertically-scrolling shoot-em-up, where you'll have to dodge the aliens and mind the cavern walls.



■ ***Rainbow Islands:*** **due out soon.**



■ ***Starlord:*** **from Maelstrom.**

Python Game

Virgin/Mastertronic have acquired the licence to produce a Monty Python game. To produce a Monty Python game. I keep getting this funny feeling of deja vu. I never wanted to be a journalist you know, I wanted to be a lumberjack. Out in the forests, breathing the fresh, pine air, with my best girlie by my side. Excuse me, is this a cheese shop? No, it's a news story, get out of it at once and take that bazouki player with you.

All right, stop that, it's silly – and a bit suspect too. These news pages are showing far too much tendency towards silliness. Let's have a nice sensible story about spreadsheets and accountancy packages. When I say cut, cut to the next news story...wait for it, wait for it...cut.

It is an ex-news story. It has ceased to be.



■ **Lovely plumage, as displayed by the Monty Python team.**

A-MAX ROMS

After initial problems with Mac ROM supplies, users of ReadySoft's Macintosh emulator, A-Max, can rest peacefully in their beds in the knowledge that 128K ROMS are finally readily available from the unit's UK distributors, Entertainment International.

A-Max is now available complete with ROMs for £249.95. Existing A-Max users who require ROMS can purchase them separately for £115. Entertainment International can be contacted on 0268 541126.

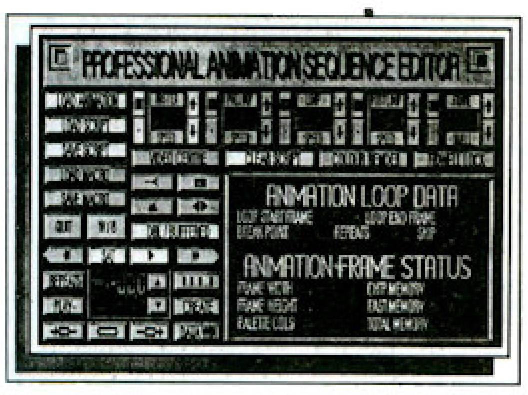
PROFESSIONAL ANIMATION SEQUENCE EDITOR

Pure Graphics have come up with a new contender in the graphics arena with the *Professional Animation Sequence Editor*. It is designed for use in conjunction with animation sequences created using programs like *DPaint III*.

The program can use any correctly-numbered sequence of IFF graphics files in any resolution: low, interlace video, med, high, HAM, EHB and overscan. It will work on a basic A500 but to get the best out of it Pure recommend having 1Mb of RAM.

PASE has a host of editing and playback facilities like real-time or step-time editing, cut, copy and paste frames anywhere in the sequence, video scratching effects, full genlock compatibility and a lot more besides. It costs £75.00 and we will be featuring a review of it soon.

Further details can be obtained from Pure Graphics, 239A Ivydale Road, London SE15 3DY. Tel: 01 358 0663.



■ The main editing screen from the *Professional Animation Sequence Editor*.

WIZMASTER STICK

What is a QS-118? It's not a John Landis movie and it certainly is not the editor's prison record number: it is in fact the latest in the Quickshot range of joysticks from Spectravideo. QS-118 a little abstract for you? Well let's call it the Wizmaster then. The joystick features a total of three different control mechanisms, push button finger and thumb control, two different-sized levers, two fire buttons, autofire and a computer system select button. All this for £11.95. The minimalist phase in joysticks appears finally to be over – more knobs, switches and buttons are now fast becoming the in thing.



■ The QS-118 Wizmaster, looking like part of the Starship Enterprise.

MGT Drive

As well as producing the SAM Coupe computer, a Spectrum clone, Miles Gordon Technology are launching a new disk drive called the Lifetime Drive. It's a 3.5 inch drive that is also compatible with a whole range of other computers including the ST, PC, BBC and even the Spectrum +3.

It needs the correct cable to connect it up, which, naturally enough, MGT supply as well. The disk mechanism itself is a Citizen, double-sided, double density, 1 Mbyte unformatted. The drive costs £129.95 and the Amiga cable another £18.50. MGT can be contacted at Lakeside, Phoenix Way, Swansea SA7 9EH. Tel: 0792 791100 (...and no, we will not be printing the ridiculous sexist picture that has been used to promote the drive.)

AMOS UPS STOS

Who says public pressure doesn't have any effect on software houses? After almost a year of constant complaining from Amiga owners, Mandarin have finally decided to release an Amiga version of their popular ST games writing utility *STOS*.

The Amiga version, *AMOS*, is a fully-integrated programming environment that is designed specifically for the creation of games. The core of *AMOS* is a powerful, BASIC-like programming language that allows complete access to all the Amiga's extra facilities such as the copper co-processor, the Blitter and the sound hardware. To help with the creation of of your programming masterpieces, *AMOS* also includes tools to aid the creation of sprites, music, sound effects and game maps.

Using *AMOS*, you'll have access to 48 software sprites and 32 hardware sprites onscreen simultaneously, which is quite an achievement when you consider that at the basic level, the Amiga only has eight hardware sprites (although it's common programming practice to get around this by making the copper 're-use' sprites).

According to Mandarin, AMOS offers such a high level of control over the Amiga hardware that there is nothing that cannot be achieved with *AMOS* that could with either C or assembler. Expect to see *AMOS* arriving in the shops at the end of October and in this magazine just before.

THESAURUS

Wordsmiths will be pleased to hear of the arrival of a stand alone thesaurus called *K-Roget*, from Kuma Computers.

It contains over 150,000 words and phrases and a phonetic spelling checker. It needs a two disk drive or hard drive system in order to operate. Until September 30th it is available at a special price of £29.95.

Full details from Kuma Computers, 12 Horseshoe Park, Pangbourne, Berks RG8 7JW. Tel:07357 4335



ABACUS

The American publishing company Abacus have added another title to their already impressive range of Amiga specific books. As the name suggest, 'Amiga C For Advanced Programmers' is aimed fairly and squarely at the more techie types among you.

The book provides an in-depth look into the inner workings of compilers, assemblers and linkers, how to produce wonderful user interfaces using the ROM-based Intuition routines, coping with large C programming projects and other jargon-ridden subjects that only C programmers can convincingly bluff their way through during conversations.

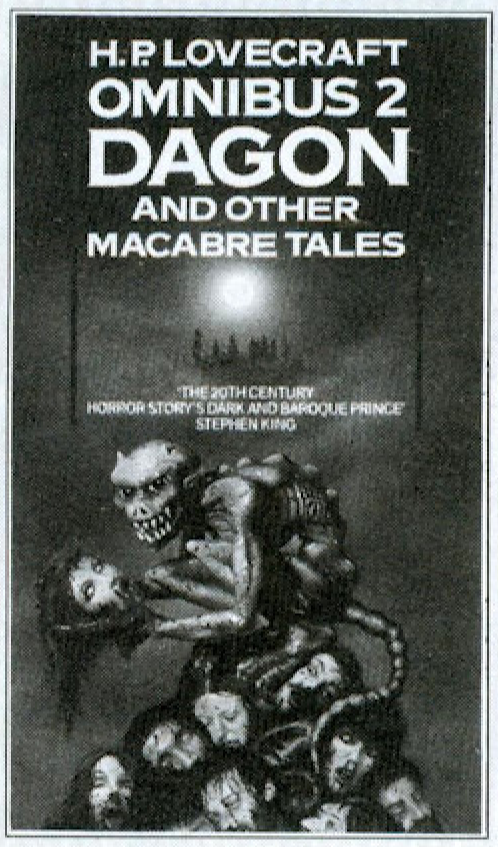
GIGABYTE STORAGE

How do you fancy 3 Gigabytes (320Mb) of hard disk storage capacity? You do? Well it will cost between £3,500 and £22,000. The Gigamaster is available in SCSI format from Applied Microsystems Technology. Tel: 01 450 3222. If anybody does get one, let us know about it – we would like to know some rich people.

HOUND Of SHADOW

'The Hound of Shadow is upon you and you bear its mark.' So stated the ominous, anonymous note that arrived at the *AF* office, accompanied by a volume of HP Lovecraft's excellent short stories.

Inside is the eerie tale of The Hound – scarier than having to play *Classic Invaders*. It is in fact a nice piece of teaser advertising for Electronic Arts' new game, *The Hound of Shadow*, which is loosely based on the short story. What'll be next through the post – voodoo doggy dolls maybe, or perhaps the odd bloodstained fang?

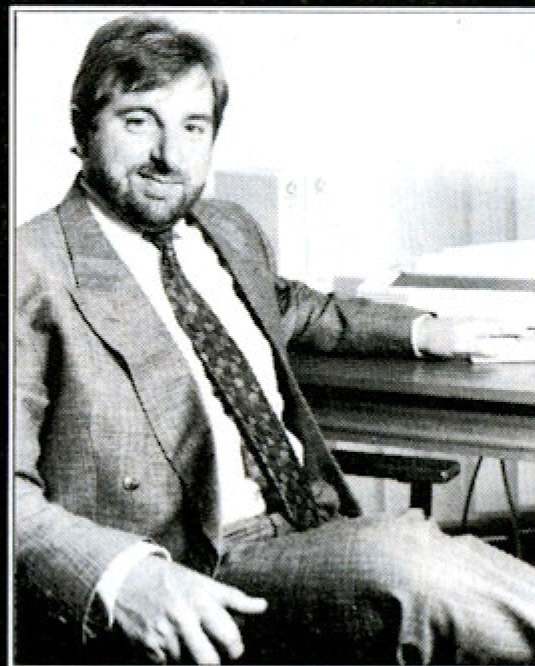


■ **The HP Lovecraft book from which *The Hound of Shadow* is taken.**

Commodore PC Man

Commodore has appointed a new marketing manager to replace Dean Barrett, who recently left to take a job in publishing. His name is Jeff Earl and he has previously worked for Toshiba, helping market their portable PC range.

This appointment marks a definite push by Commodore into the PC market, but it is as yet unclear what effect it will have on their treatment of the Amiga.



■ **Commodore's new marketing manager, Jeff Earl.**

MES BOARDS

A low-price memory upgrade is about to be launched by a new company, Memory Expansion Systems. The 512K memory card costs just £84.95.

The card slots into the port underneath the A500 and is equipped with an on/off switch. This is so it can be switched off without being removed - essential for some older protection systems that detect the memory and won't work with it.

Enquiries to Memory Expansion Systems, 2nd Floor, Britannia Buildings, 46 Fenwick Street, Liverpool L2 7NB. Tel: 051 236 0480

POWERPLAY STICKS

Powerplay are fast becoming one of the major names in joysticks, thanks to the success of their Cruiser and new Crystal sticks. The innovative aspect to the sticks is the strange colour schemes that they come in.

There are the four types of Cruiser – standard black or blue at £9.99, a clear one with autofire at £12.99 and the unmistakable multi-coloured model at £9.99. The multi-coloured one has been variously described as 'colourful', 'garish', 'revolting', 'trendy', 'delightful' and 'novel'. You will either love it or hate it, but you can't ignore it. The Cruiser also has an adjustable collar on the shaft to change the responsiveness.

The Crystal also comes in four varieties – clear at £14.99, clear with autofire at £16.99, red or green at £12.99 or £14.99 with autofire. All the Cruisers and Crystals come with 12-month guarantees.

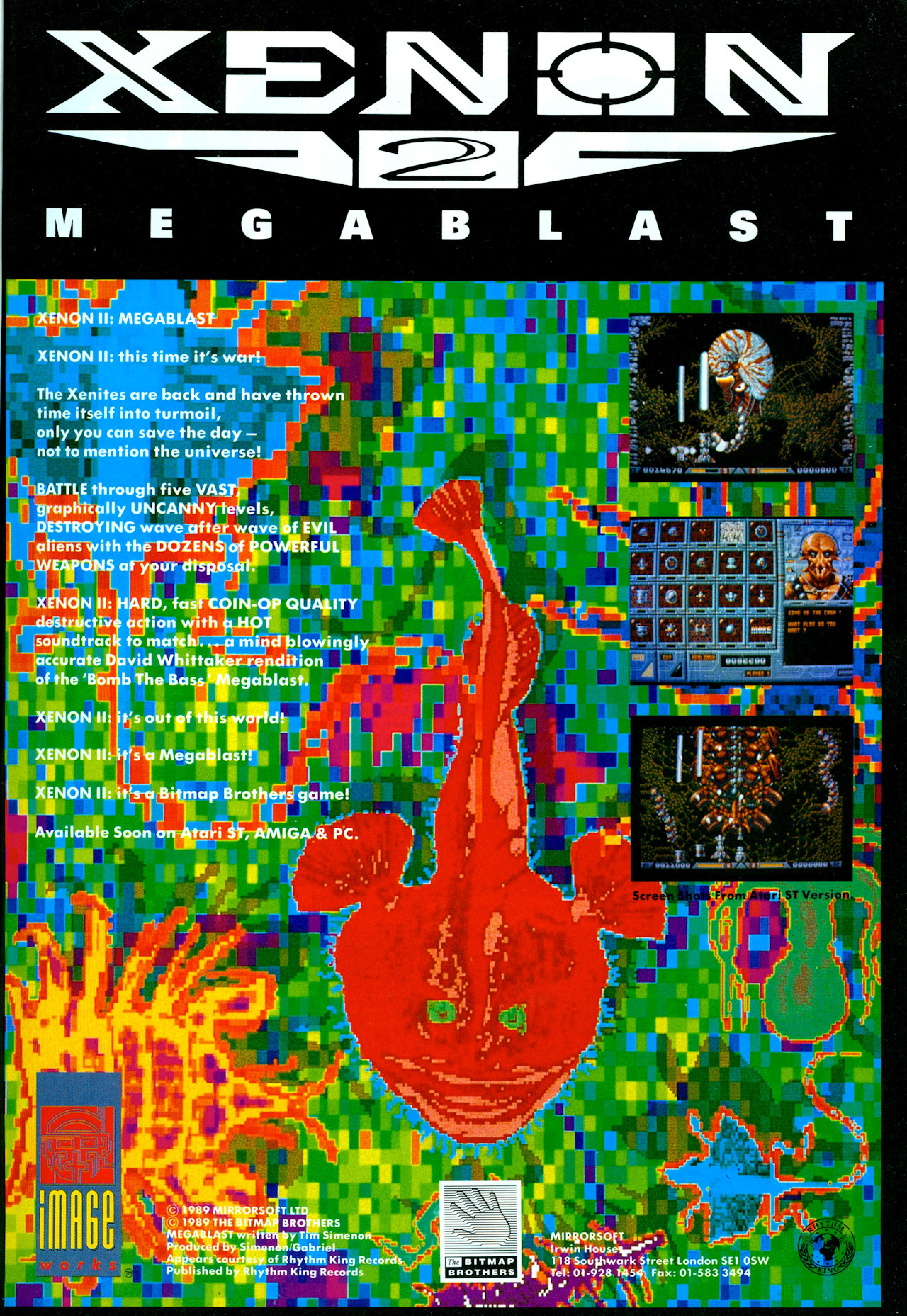
COMMODORE FOOTIE MAG

Commodore are extending their involvement with the British football scene to sponsor a new weekly magazine called Free Kick. They have already received substantial coverage for their sponsoring of the Chelsea football team. Commodore will sponsor the rankings section of the magazine where players are rated according to their performances. Each month Commodore are donating a computer to the top-ranked player, to donate to the school or charity of their choice.

Talespin Adventures

Talespin is an adventure creation tool from Microdeal that has just made its way onto the Amiga. It allows backgrounds to be created and used, along with digitised sound, and is completely mouse driven.

It is not just aimed at adventures either – the system of mixing graphics and text in a storybook fashion means it could be used to create demos, walk-throughs and stories. It costs £29.95 from Microdeal, PO Box 68, St Austell, Cornwall PL25 4YB. Tel: 0726 68020


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XENON II: this time it's war!
The Xenites are back and have thrown time itself into turmoil, only you can save the day — not to mention the universe!
BATTLE through five VAST, graphically UNCANNY levels, DESTROYING wave after wave of EVIL aliens with the DOZENS of POWERFUL WEAPONS at your disposal.
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XENON II: it's a Megablast!
XENON II: it's a Bitmap Brothers game!
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MEGABLAST written by Tim Simenon
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COMING ATTRACTIONS

EXTRA! EXTRA! READ ALL ABOUT WHAT THE MAJOR SOFTWARE HOUSES ARE UP TO. FIND OUT WHAT GAMES YOU'LL BE PLAYING TOMORROW. EXTRA! EXTRA!

HEWSON

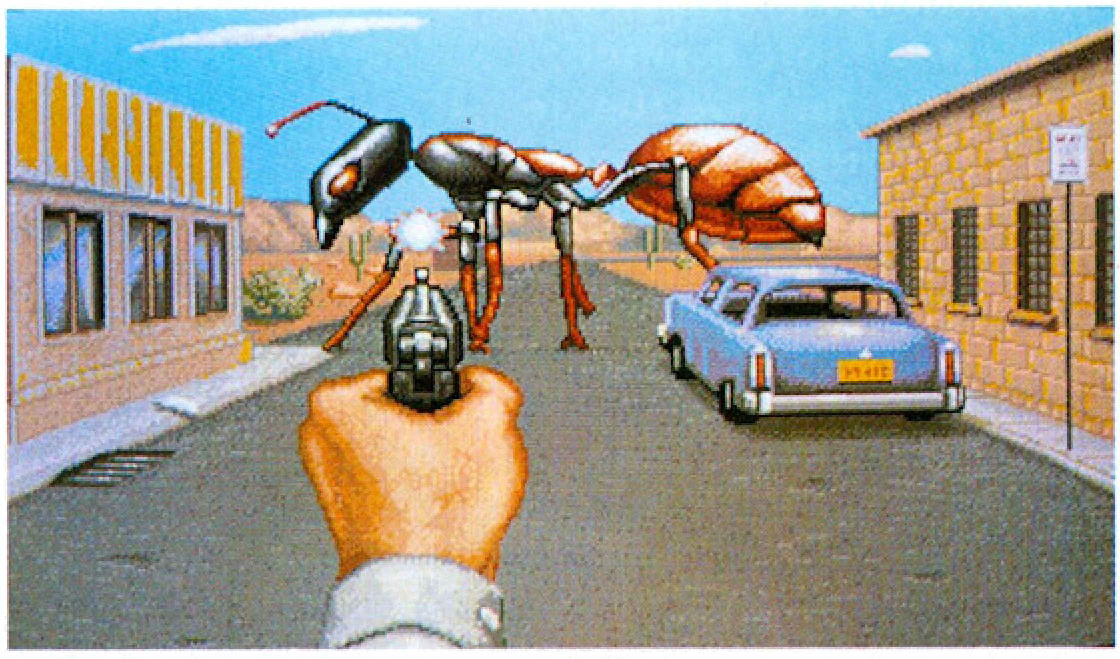
***Stormlord* is still awaited, as is *Astaroth.* Then there's *Onslaught,* from Chris Hinsley and Nigel Brownjohn (*Verminator* and *Custodian* respectively). This is going to be a role-playing adventure set on a large campaign map divided into 10 kingdoms, each made up of 256 locations. Also included is a 'Kingdom Creator', so expect hours of fun.**



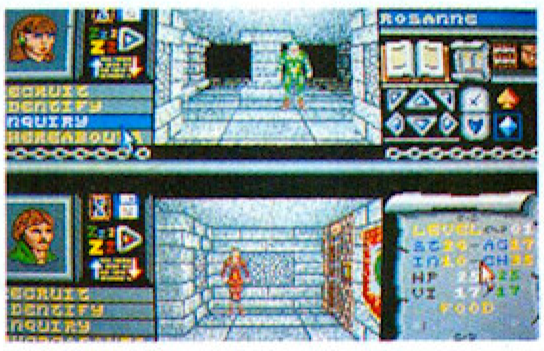
■ Raf Cecco, King of the Spectrum, brings us the Amiga *Stormlord.*

MIRRORSOFT

The Bitmap Brothers are keeping themselves busy with *Xenon II,* so keep your eyes open shoot-em-up fans. Tennis fans will soon be able to play *Passing Shot,* the conversion of the Sega coin-op, while adventure/role-playing fans can soon go trolling around some dungeons in *Bloodwytch.* If you prefer your games in a more light-hearted vein, then Cinemaware have the answer in the form of *It Came From The Desert:* in which gi-ants (geddit?) have invaded a town. Do you have the mettle to save the day? Find out on a screen near you... soon!



■ It's just like one of the worst B-Movies ever made: and all the better for it. Attack of the Gi-ants in *It Came From The Desert.*



■ "When you said we were going Down Under, I thought you meant an Australian holiday..."

CRL

Lancaster, an action-packed tail gunner simulation looks set to land soon, so prepare yourself for take off and stand by to ▸



■ "George... tell Bunny I don't think we'll make it back for the cricket match on Sunday."



RAINBOW ARTS

Who fancies playing a horizontally-scrolling beat-em-up set in three of the world's most dangerous subway systems in New York, London and Paris? Soon, courtesy of Rainbow Arts, you'll be able to do just that in *Fallen Angel.* But if that sounds too much like hard work, try the relaxing life of an oil tycoon in *Oil Imperium,* in which you'll locate and bring to the surface all that black gold, and wheel and deal to make loadsa dosh. Still sounding too energetic? Then relax with a nice, quiet game of Volleyball, the latest less-than-usual sports sim.



■ Drilling for that black gold.



■ Volleyball's good excercise.

down a few squadrons of Messerschmitts: although mortality is high, so some of you won't be coming back. There's also an action game called *Future Sport* in the pipeline, which is a multi-eventer viewed in various perspectives. The HyperMedia games are going well and we'll be passing on more info when we get it.



■ *Future Sport:* it's a new game...

MINDSCAPE

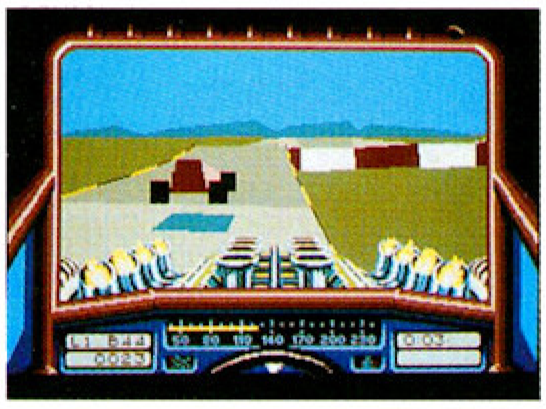
Circus freaks can soon enjoy *Fiendish Freddy's Big Top O' Fun,* six events full of slapstick, cartoon humour. There's also a Harley Davidson riding sim in the pipeline, and versions of *Star Trek V: The Final Frontier.*



STUNT CAR RACER

MICROPROSE

Latest from Geoff Crammond, the man behind *Sentinel,* is *Stunt Car Racer:* for more news, see the previous pages.



COKTEL VISION

Next up is an icon driven adventure called *The Legend of D'Jel,* full of mystery, magic and wizards plus the occasional arcade sequence. For those who prefer their scenarios more down to Earth, there is a simulation of the *European Space Shuttle,* in which you must positioning satellites strategically...



■ Head in the stratosphere: *ESS.*



■ Evil walks the earth again: devil worship in *The Legend of Djel.*

ELECTRONIC ARTS

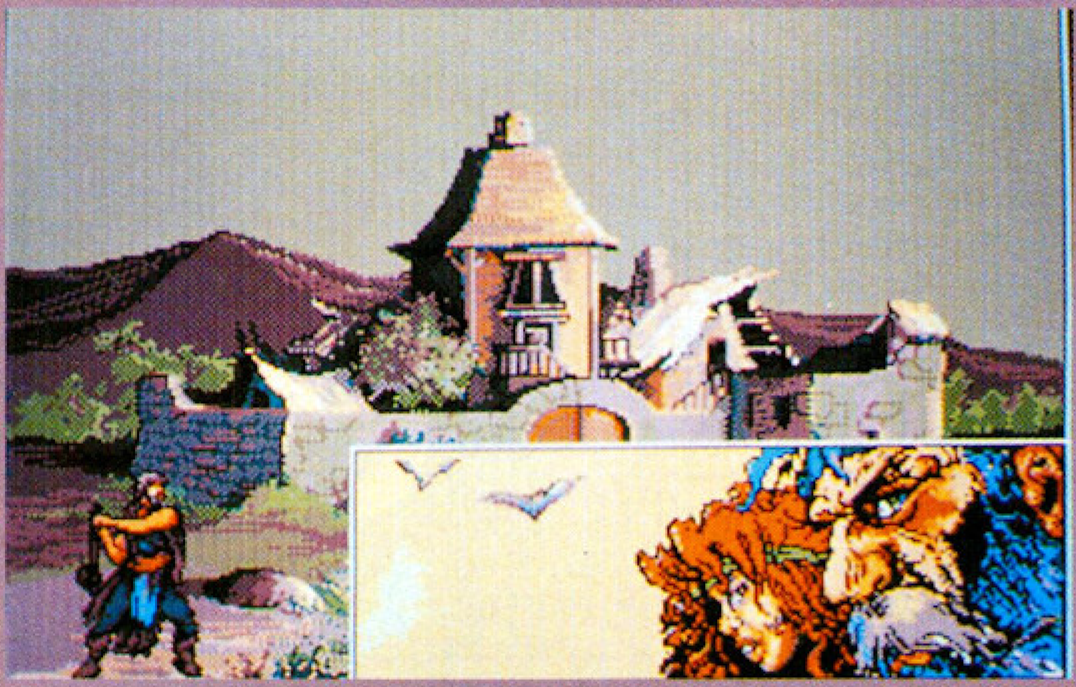
When you hear that programmers have developed a whole new system to enable them to write a game, you know you're in for something special. That's what the EA bods have done with *Hound Of Shadow,* an adventure role-playing game set in London in the 1920s and inspired by the Cthulhu mythos developed by HP Lovecraft. The system is called Timeline and has been developed to enable characters from the game to be recognised and remembered in later games in the series.

And for those of us who just can't get enough of *Populous,* there will soon be a new data disk, *The Promised Lands,* enabling you to battle in five new landscapes, including a Wild West scenario amongst the forts, jails and teepees and a Revolution Francaise scenario.

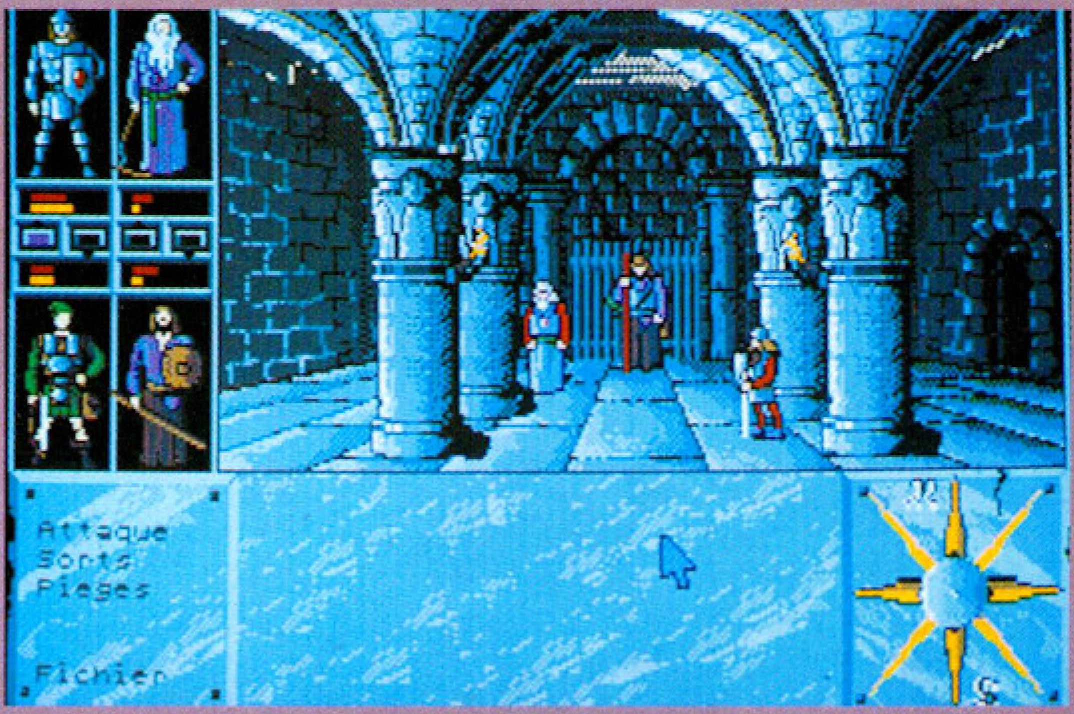


■ If you want to get ahead...

INFOGRAMES



■ *Legend of the Time Bird* promises splendid cartoon graphics.



■ With the work of Gary Gygax, *Drakkhen* should be amazing.

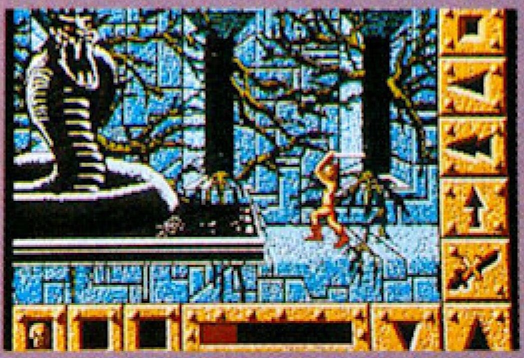
Future releases from the Gallic Invaders include *The Quest for the Time Bird,* an adventure-ish game with the comic book style of earlier games such as Passengers on the Wind. There will be magic objects to use, puzzles to solve, fierce animals to fight and new worlds to explore.

Really big news for role-players is that Gary Gygax, one of the original creators of the immensely popular Dungeons and Dragons series of RPGs, has been working with Info' on a game called *Drakkhen.* While the programmers put the game together, Gary offers his expert advice.

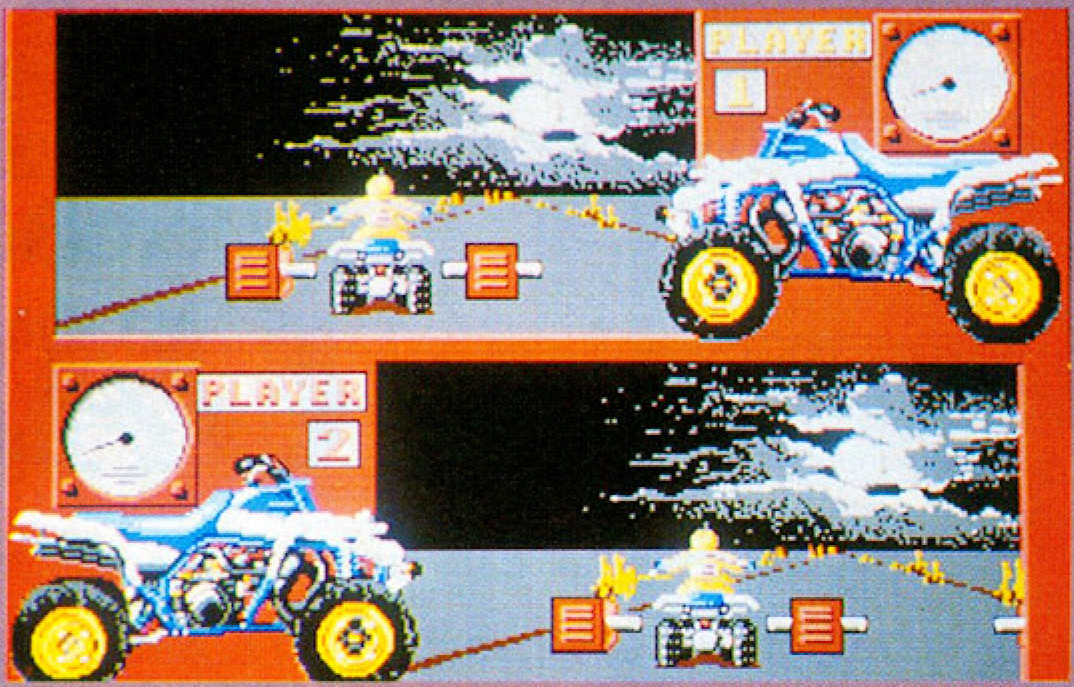
If wargaming is more your sort of thing, there's *North and South,* a wargame based on the American Civil War of the 1860's, which features a few arcade sequences for the player to participate in. Action fans haven't been forgotten though: for a start there is *Skrull,* a Barbarian-style chop-em-up and *Iron Trackers,* a one or two player All-Terrain Vehicle racing sim set on an island.



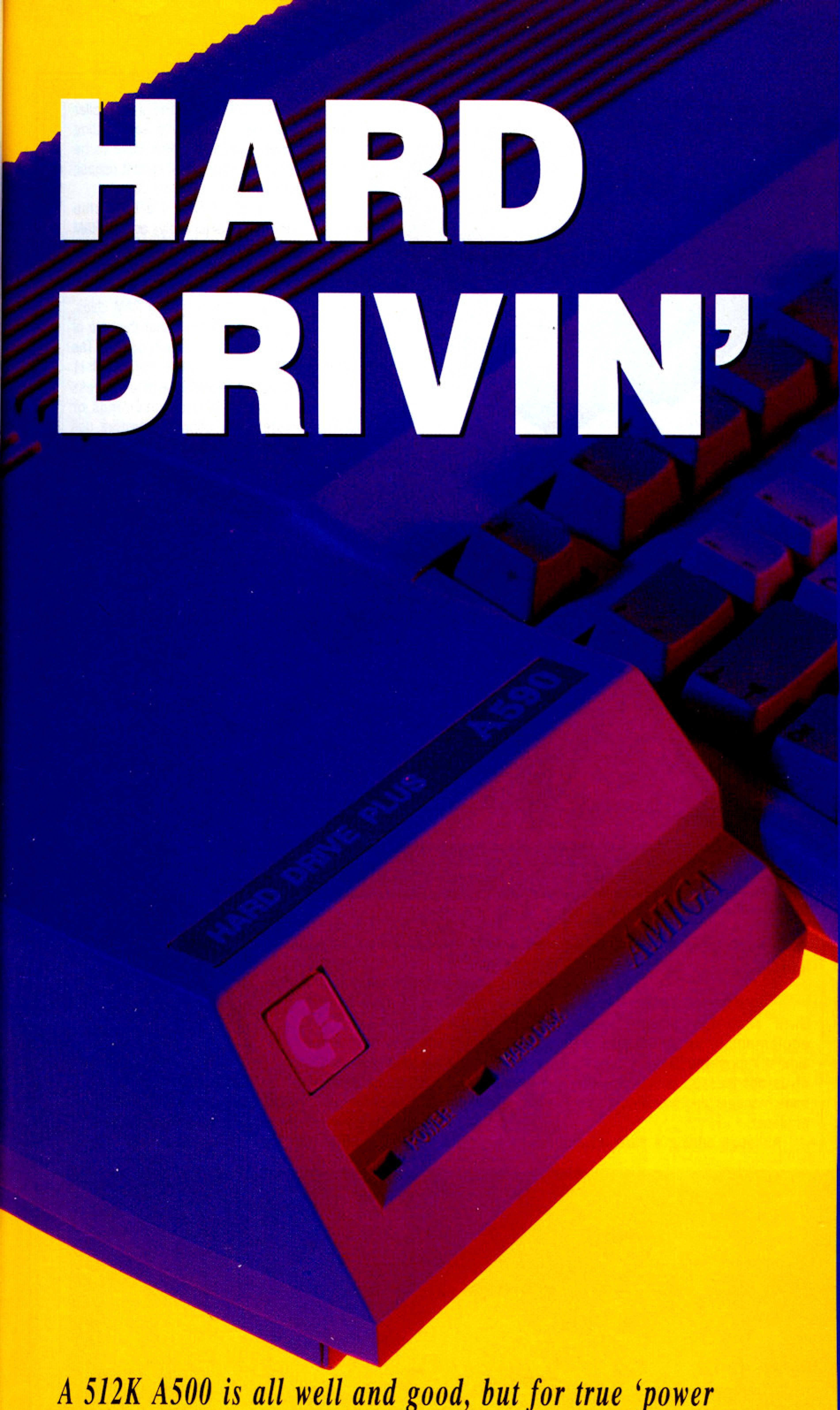
■ *North and South:* civil war.



■ *Skrull:* mad sword-swinging.



HARD DRIVIN'



A 512K A500 is all well and good, but for true 'power computing' you need a hard drive and a RAM expansion. JASON HOLBORN checks out Commodore's 'official' offering, the A590 Hard Drive Plus.

After a couple of weeks of playing around with the A500, most Amiga owners will sooner or later come to the conclusion that to get the most from their new machine some extra cash is going to have to be shelled out. For starters, the vast majority will plump for a second floppy drive which should get you by for a while, but for any serious use of the A500, the addition of a RAM expansion and a hard disk will appear more of a necessity than a luxury.

STOP ME AND BUY ONE

Commodore's A590 hard drive is a complete one-stop solution that will provide your Amiga A500 with an autoboot compatible 20 Megabyte hard disk complete with an unpopulated RAM expansion board which allows up to 2 Megabytes of fast RAM to be added to your machine.



■ **Designer hardware is right back in fashion.**

The A590 unit is a rather stylish, colour coordinated box that features a SCSI port which will allow you to connect devices such as extra hard drives, CD ROMs and optical disks. Unfortunately, it doesn't feature a pass-through connector for the expansion port and so if you already have an item of hardware which uses this, you could be stuck.

The A590 arrives in a box containing the hard drive unit itself, another one of those chunky power supply 'bricks' to keep the one that came with your A500 company, 2 disks containing the necessary installation software and hard drive utilities, a small but meaty manual and a rather obscure strip of metal that Commodore refer to as a 'ground clip'.

PLUG IN AND GO

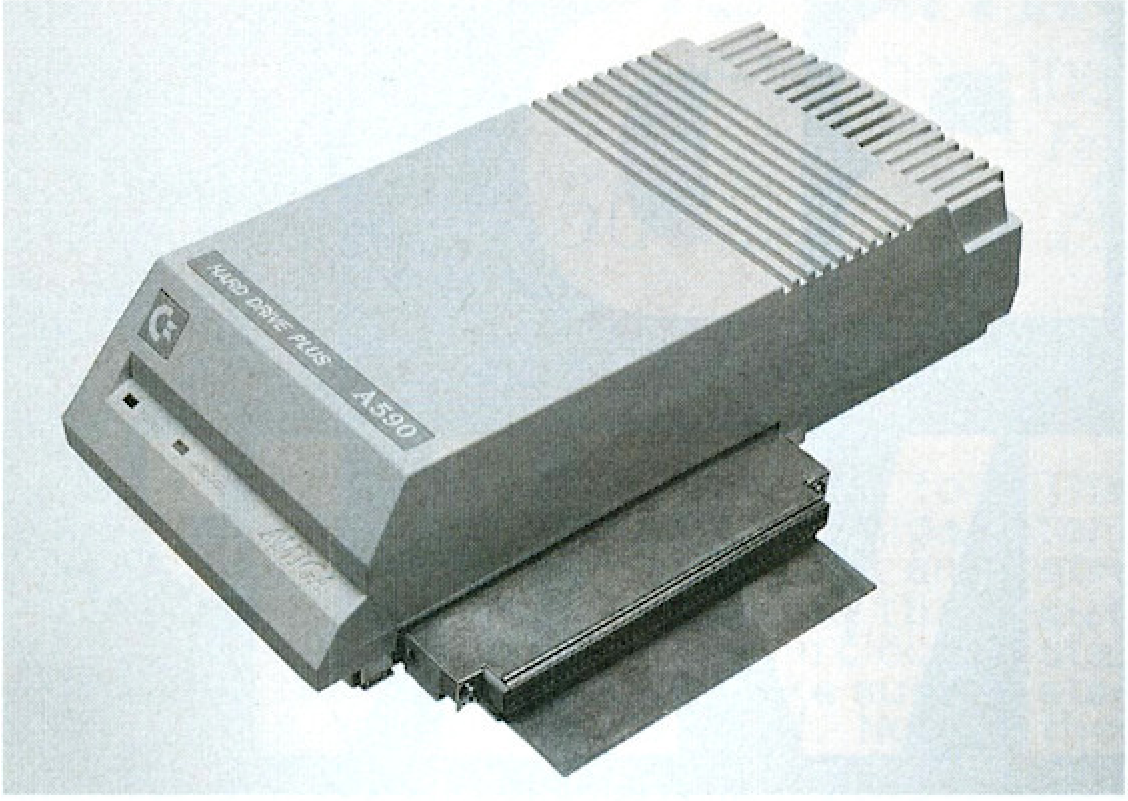
Before you can plug in your A590 and get going, the first

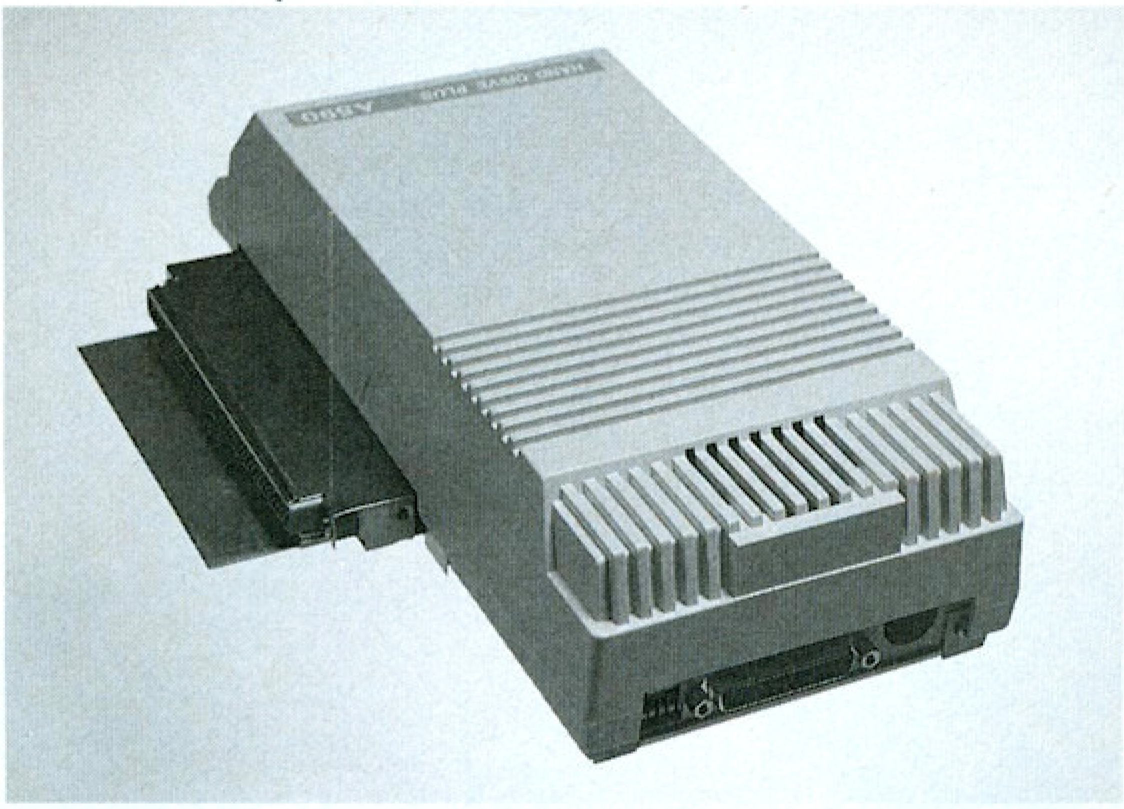
thing you must do is to fit the ground clip to your Amiga. This little insulated metal strip must be inserted between the cardboard sheet and the ground shield on the expansion bus. Once installed (for which, read 'forced in'), you can now slot the A590 connector into the side of your machine, connect up the power supply and you're away.

If you have Kickstart 1.3, you can now boot directly from the hard drive, but if your Amiga still only has the 1.2 ROM, then you'll have to disable the autoboot ROMs (using dipswitches on the back of the drive) and boot from floppy instead. If you have taken the trouble of buying an A590, you'd be well advised to fork out an extra £15 to upgrade your Amiga to Kickstart 1.3 to take full advantage of the drive's capabilities.

The A590 uses a specially developed custom chip to allow the fastest possible data transfer. For a demonstration of the drive's speed, a program such as *Deluxe Paint 3* loads in just two seconds! For those of you 'in the know', the hard drive has an access time of 80 Milliseconds.

The A590 certainly isn't the cheapest of hard drives: ASAP's Amdrive offers an extra 10 Mb of storage, and autobooting, for only about £30 extra. The things that really separate the A590 from the 'budget' hard drives are its blindingly fast transfer rates, the useful addition of a RAM expansion board as standard and the sheer professionalism of the whole product. The addition of a RAM expansion board and SCSI compatibility means that you can take your A500 further than you could previously have ever dreamt of. Purchasing a hard drive is very much like buying a can of beans: it really does pay to fork out the extra cash for a better quality product.





■ The A590 comes in a very stylish, colour co-ordinated case that perfectly matches your Amiga 500 (it also happens to hold a coffee mug beautifully). Connecting the drive isn't just a case of 'whack it in and go' – you'll first have to fit a ground clip to your machine and set the dip-switches accordingly.

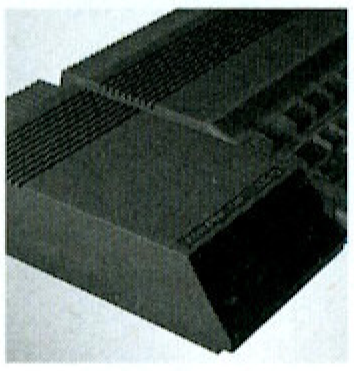
TECHNOSPIEL

Until recently, adding such equipment to an A500 was an almost impossible dream for those of us not blessed with a friendly bank manager and a brain the size of planet.

Although adding a hard drive and a RAM expansion sounds simple, it's not just a case of bunging a board in here and a box on there: there's a lot more to it. Firstly, all hard drives need a controller card which is basically an intermediate between the hard drive unit and the Amiga hardware which allows the two to converse. Also, if you wish to boot your Amiga from the hard drive, then you're going to need a controller card which supports auto-booting (your Amiga will also have to be fitted with the most recent release of Kickstart, version 1.3).

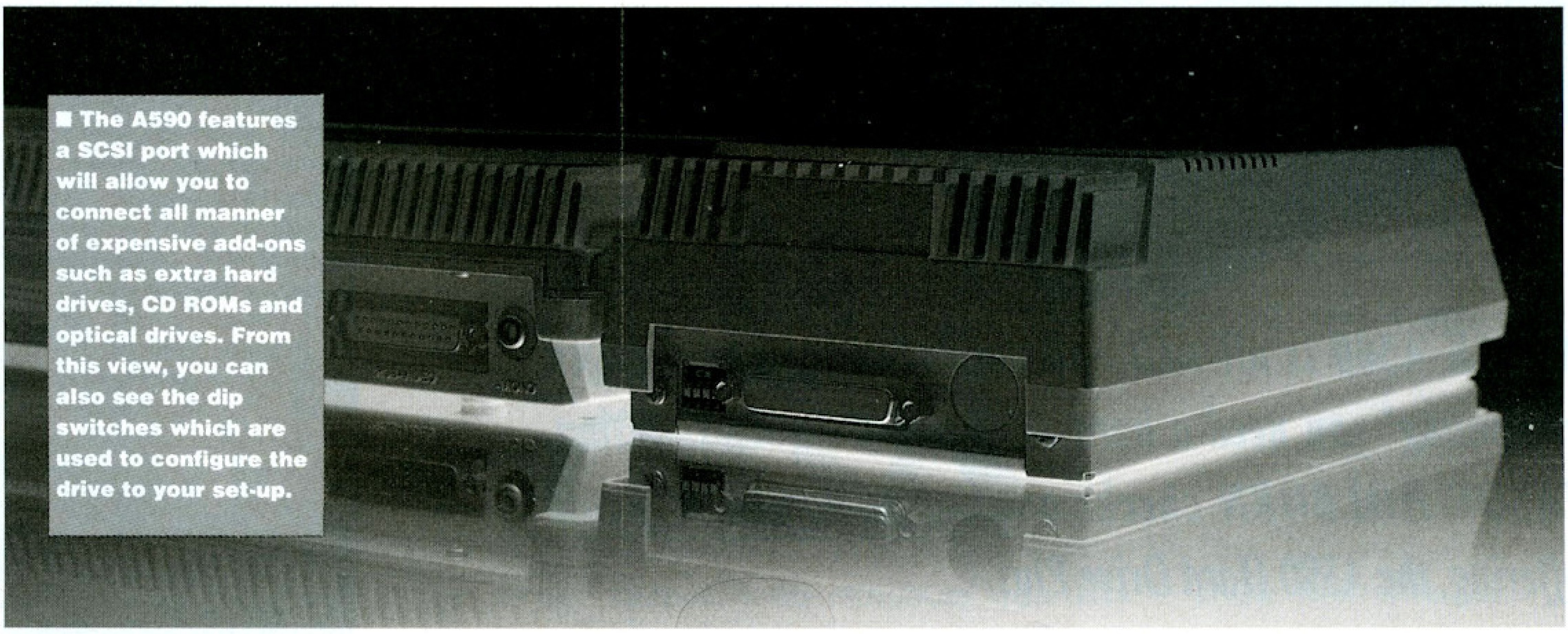
"A RAM chip's a RAM chip innit?". Unfortunately, adding RAM to your Amiga isn't just a case of getting your hands on a set of chips and then inserting them onto a board. When buying RAM chips, you have to check that they are of the correct type and speed. The A590 uses CMOS 256K x 4 (1 Megabit) DRAMS, with an access speed of 120 nanoseconds or faster. You cannot therefore use either the cheaper NMOS chips or RAM chips that have a slower access speed than 120 nanoseconds. After last years hiccup in the price of RAM chips, prices have still not dropped to their original level and so you can expect to be paying around about £20 per chip.

The A590's RAM board comes unpopulated as standard. Once you can afford it, the board can be populated in half MB, 1 MB and 2 MB steps. Using 1 Megabit DRAMs, you'll need four chips for half a Megabyte, eight for a Megabyte and 16 for the full two Megs. At current prices, upgrading to the full 2 Megabytes is going to set you back approximately £320. ■



A590 HARD DISK

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■ The A590 features a SCSI port which will allow you to connect all manner of expensive add-ons such as extra hard drives, CD ROMs and optical drives. From this view, you can also see the dip switches which are used to configure the drive to your set-up.

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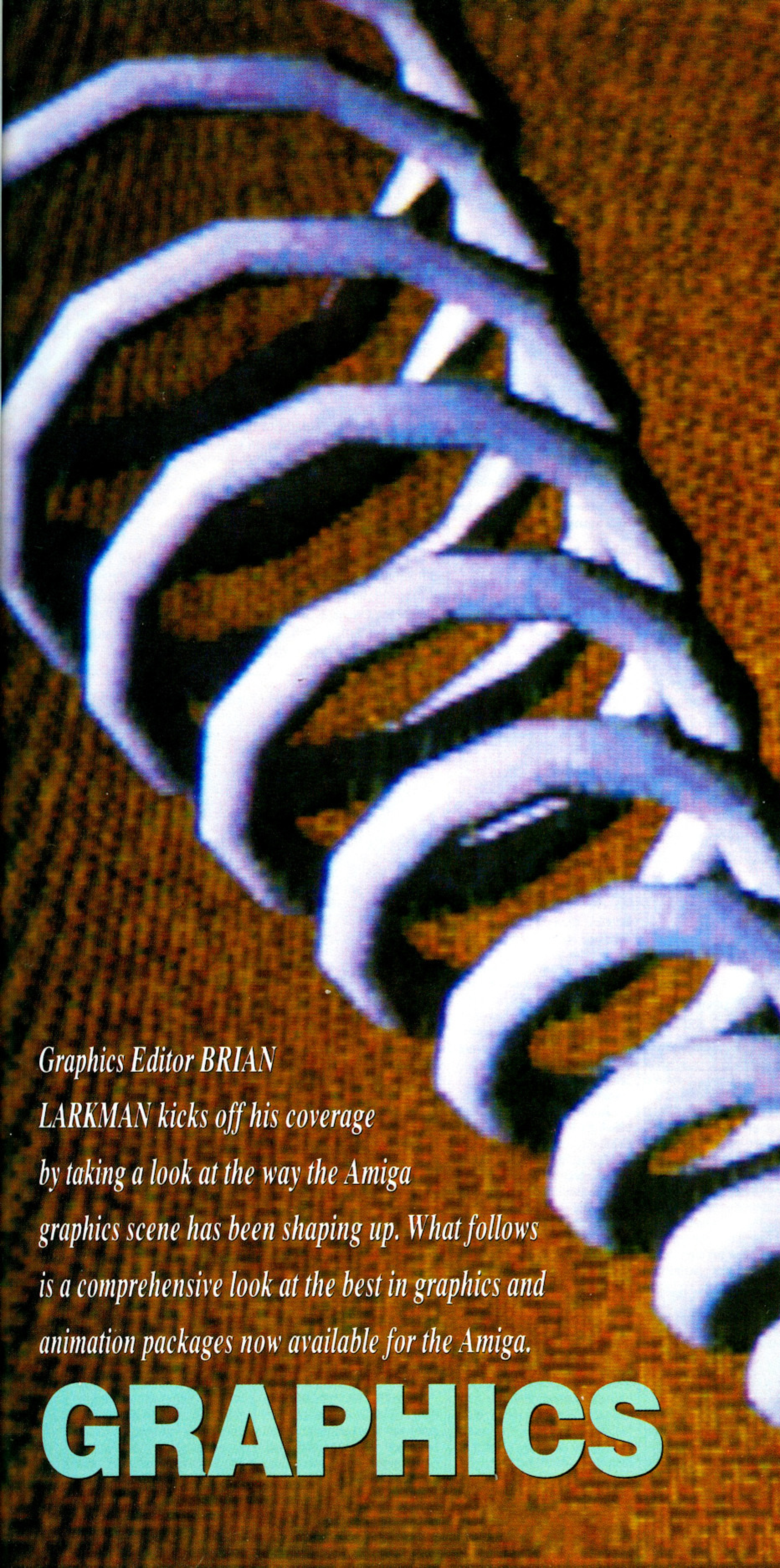
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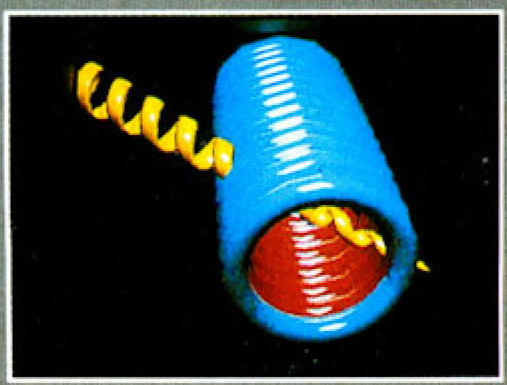
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Since the arrival of the Amiga in our lives, we have all – software writers and salespeople, developers, journalists and users – learned a vast amount about computer graphics. As the TV idents and adverts have grown in visual sophistication, just one step behind has been the Amiga owning public, discovering the delights of bitmaps and ray-tracing.

Now, the first rush of excitement is giving way to consideration of what the amazing combination of Amiga plus software plus imagination can really be used for.

The broad applications – paint, animation, DTP, video, CAD – are well defined and, on the Amiga certainly, are quite



■ This image was produced using *Sculpt Animate 4D*...

well covered, though there are some substantial omissions as we shall see. Because of this, rather than being entirely new the majority of recent new software and hardware is either an upgrade of what is already available – offering better, faster, easier to use effects and facilities – or is aimed at a specific niche, or solving a specific need. This is a very healthy sign for it indicates that computer graphics is not just a gimmick: it is a worthwhile tool used by many people whose needs are developing and becoming more sophisticated. ▸

Graphics Editor BRIAN LARKMAN kicks off his coverage by taking a look at the way the Amiga graphics scene has been shaping up. What follows is a comprehensive look at the best in graphics and animation packages now available for the Amiga.

GRAPHICS



■ ***Deluxe Paint* is now in its third incarnation. Like the Pharaoh, so much seen as its original demo, it seems immortal: even more so with animation added.**

SCREEN PRINTING

The display on a computer monitor is, in effect, an array of tiny lights arranged in horizontal and vertical rows. Each light can be any one of a range of hues and shades, or off: so almost any image can be composed on the screen by varying these colours. The lights (or PIXELs – PICture ELements) are each controlled by the state of one byte in the computer's screen memory map: so the display is called BIT-MAPPED.

All graphics programs use the bitmap to display representations of their final output, but paint programs operate by manipulating this map in a vast range of ways to transform the screen directly, usually almost immediately. This technique could be called SCREEN PAINTING. Recent developments include surface, texture and contour mapping where a section of the 2D bitmap is re-mapped onto a representation of a 3D surface, with a range of shading to give the effect of texture and contours.

The two BIG programs in Amiga screen painting are *Deluxe Paint* and *Photon Paint*, now in their third and second incarnations respectively.

Deluxe Paint III (£79.95 Electronic Arts 0753 49442) is undoubtedly the ultimate system for use in all the normal Amiga screen modes. Other than animation (covered later), the main new features are: the use of Extra Half-Brite supporting 64 colours, especially useful for shadows and highlights: overscan painting: wrap brush mode for pseudo-surface mapping: tint brush mode giving colour and transparency effects: much better font support: generally much faster operation, especially of perspective effects.

Photon Paint 2 (£89.95 Digipro 0703 703030) has become the primary tool for screen painting in the Amiga's quirky 'omnicolour' mode, HAM. It also now provides animation support though nowhere near as comprehensive as that of DPIII. (Even just a simple VCR-type controller for ANIM's would have been very useful.) Nevertheless, the rest of the new features are excellent developments and enhancements of the original tools, consistent with the general trend of graphics software. New on the menu are: true contour mapping using a ray-tracing algorithm: colour transformation modes allowing a huge range of foreground and background colourisation effects: stencil to protect selected areas of the screen: rub-through from an alternate picture: pantograph: and many more useful features.





■ **The Gross Watch: a *Photon Paint 2* piece.**

Two other recent programs of interest are **Express Paint 3** and **Spritz,** (£29.95 Best UK 0698 887770) both written in the same distinctively quirky but feature-packed style by Stephen Vermeulen. Of the two, *Spritz* has become the best-known in the UK, because it is the latest A500 marketing freebie. It goes its own way to providing most of the tools that an Amiga screenpainter would expect, and a few more: like multiple level undo, fancy borders and an icon editor. *Express Paint 3* is considerably more powerful, especially in terms of page size as it uses a 'virtual page' system that stores part of the screen memory outside the video chip allowing picture sizes only limited by total memory. Other advanced features include flood-fill areas with imported text, and postscript output.

Zoetrope (PAL version: ISM tel 0983 864674) also features a wide range of painting tools, but its strongest feature is most probably 2D animation (see below).

2D ANIMATION

Traditional character animation depends on the eye being deceived into thinking that a rapidly-changing sequence of still pictures is actually one object that is moving. Slight changes of position and orientation between frames are read by the eye as smooth movement providing the display rate of the frames is above about 10 frames per second. The same effect can be achieved on a computer in several ways, using bitmap objects or 'sprites', using structured objects and by page flipping.

One great advantage of bitmap screen painting is that sections of the bitmap can be selected and moved around in memory very quickly. On screen this gives the impression that a piece of the picture has been cut out and moved across the face of the image, like a real object. Game animation uses the same technique by storing a series of similar bitmap 'objects' in memory and moving them into the screen bitmap in sequence, 'flipping' rapidly between them. By moving the cuts across the screen at the same time as 'flipping' the sequence, an animated character called a SPRITE is created. By defining motion paths and timing heirarchies, sprites can be used to create animated sequences.

ECONOMY OF STRUCTURE

A simple geometric object such as a square or disc can be defined by its structure; the position of opposite corners for instance, or the position of the centre and length of radius. On a computer, this sort of STRUCTURED OBJECT can be very economical of memory compared to the detailed description of every pixel for a bitmapped object. Provided it is fairly simple it is also easy to transform the structure or move it so this process can be the basis of an animation method. Bitmap objects and Structured objects are used in many computer applications (DTP, CAD etc.)that require blocks of graphics and text to be moved flexibly about the screen. This is known as an OBJECT ORIENTED system.

More complex structured objects can also be transformed across a series of frames by a method known as TWEENING. The position of all the control points or vertices of the structure are defined for the first and last frames of the sequence. The offset for each point from first to last frame is calculated and divided by the number of frames. This provides the offset for each frame allowing the position and shape of each of the inbeTWEEN frames to be calculated and rendered.

JUST FLIPPED

PAGEFLIPPING is the nearest computer equivalent to traditional 'cel' animation (in which each frame is painted on CELluloid). In effect it is a scaled up version of sprite flipping for a whole page. The moving object is pasted down on each successive page with the required offset or transformation. The finished animation is played by 'flipping' the pages rapidly. Because each screen takes up a relatively large part of memory yet only a small part is actually changing, several compression techniques have been developed. The most common is called Delta Compression. The first frame is saved complete, then for each successive



frame, only those pixels that have changed colour are saved. (Delta is commonly used in science to denote a parameter that has changed.)

Recent developments include perspective transformations, where the flat sprite bitmap is twisted and moved into the picture in 3D, and AnimPainting, where a sprite is picked up as a 'cut' or brush and painted repeatedly onto a series of screens.

MOVIE MAGIC

In attempting to make the process of 2D animation on the Amiga flexible and easy to control a wide range of systems have been developed without, until recently, any standard system being adopted. Although not really establishing a standard, the two most successful recent systems, *Zoetrope* and *Deluxe Paint III*, are based on screen painting and pageflipping, using a number of sophisticated tools to produce smooth and complex choreographies.



■ **An example of the remarkable results that can be obtained using *Photon Paint 2* to paint with.**

Zoetrope (ISM 0983 864674) is arguably the most powerful animation tool so far devised for the Amiga. It is only limited by being low resolution, non-HAM and until recently only NTSC. ISM of Southampton are now marketing a PAL version. As a paint program *Zoetrope* is limited to about the level of the original *Deluxe Paint* – though even that is pretty good. It provides a huge range of special effects and transformations including ripple, shatter, crystalise and defocus, as well as many useful control tools such as a VCR type frame controller and 'blueing' (showing a blue 'ghost' outline of the previous frame.)

Deluxe Paint III provides a unique means of controlling animations because it is so familiar to almost all Amiga artists. Dan Silva has managed to integrate animation into the system in an almost seamless way that is easy to learn and quickly feels like a completely natural part of the painting process. In particular his introduction of the concept of ANIMBRUSHES and ANIMPAINTING is revolutionary. Using these techniques it is possible to forget about separate frames and just 'paint' the animation onto the screen (until memory runs out – *DPIII* is the best excuse I know for buying more memory!) Added to that, all the normal drawing tools work with Animbrushes, so animated objects can be sent along complex curves or into the depths of Z-space (into the screen).

The only real problem with both *Zoetrope* and *DPIII* is that some degree of artistic ability is required. Careful positioning of brushes is essential as there is no undo facility, once a whole set of frames have been painted to. With frequent saving this is not a particular problem, but it helps to know what you want to do and what the finished result might look like. Those who can do little more than draw the curtains can still have lots of fun, especially with all the clip-art provided by Electronic Arts with *DPaint*. Nevertheless some other packages are probably easier to get quick and reasonably polished results from.

MovieSetter (£69.95 Gold-Disk and Digipro 0703 703030) claims to use a WYSIWYG approach that takes much of the heartache out of animation. In practice it operates very much like an animated desktop publishing system, or more specifically, like its sister program from Gold Disk, *ComicSetter*. *Moviesetter* is limited – like most bitmap object animators – by memory, or the lack of it Nevertheless, provided you have got a good supply of clip art and sound effects, some excellent results can be obtained. The great advantage of this method of animation is that it is object oriented. Each component – or set to use the *MovieSetter* jargon – can be repositioned at will and re-used in other scenes and movies.



■ ***ComicSetter* in action: Kappooooww!**

There are still very few 2D animation systems that support HAM. This is not suprising considering the memory that it uses. Only expanded machines can make effective use of more than about 8 frames. Microillusions are producing a series of programs that together will make an extremely powerful, full colour animation system. So far the *Photon Video* series includes *Photon Paint 2*, mentioned above, *Photon Video: Cel Animator*, *Photon Video: Transport Controller* and *Photon Video: EDLP*.

Photon Video: Cel Animator (£99.95 Microillusions and Digipro 0703 703030) is the starting point in this system. It provides pencil testing by showing up to 10 of the previous frames simultaneously. These frames could be digitised in from paper drawings or, more usefully, drawn using the limited drawing tools in the program. (If only these could have been more comprhensive including bezier curves and other CAD type tools!) Up to 80 two-colour screens can be stored even with only a standard A500, 250 with 2meg expansion. Playback speed, delay factor (for each frame) and sound sync can be added, and notes kept for each frame in an exposure sheet. All of this line drawing can then be loaded into **Photon Paint 2** (or *Deluxe Paint III*) for full colour rendering then output to video or stored as an anim. As an expensive but professional alternative, **Photon Video: Transport Controller** could be used to send individual frames to sophisticated video recording equipment. **PV: EDLP** is an Edit Decision List Processor used by professional video and film recordists and editors to make sure that all the bits are put together in the right order.

Rather a lot has been written about this system but it represents a major professional use of the Amiga in the future. Once the Expanded Chip Set and Workbench 1.4 arrive it should be possible for all of this system to be integrated into one program on a greatly expanded machine suitable for quite large animations.

CAD

Strictly speaking, all computer graphics is Computer Aided Design (CAD) but the term has been hijacked by the technical drawing fraternity to describe the specialised, highly accurate, structured method that they require for output to pen plotters. The use of the term has become increasingly confused by the use of structured drawing methods to construct models for 3D animation (itself closely allied to 3D CAD), and more recently, for drawings used by DTP oriented ILLUSTRATION systems.

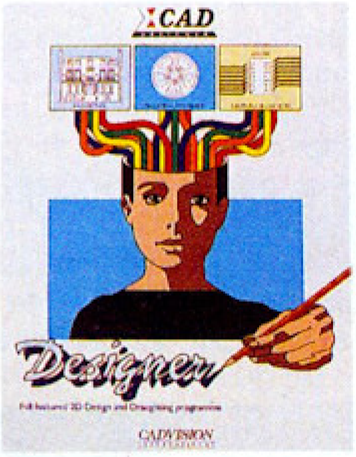
Structured Drawing is used by all these applications for similar reasons – mostly because the output device is capable of a much higher resolution than the screen display. Technical drawing CAD is usually output to a pen plotter that can draw smooth curves with extremely fine pens on almost any size of paper; the most expensive plotters use rolls of AO width paper that can produce drawings 10 metres long or more. CAD systems produce structured objects that can be grouped together and used repeatedly, often changing the scale and proportions with each re-use. Vast technical drawings of complete aircraft or complex buildings can be built up accurately from basic objects.

FAT FROM FLAT

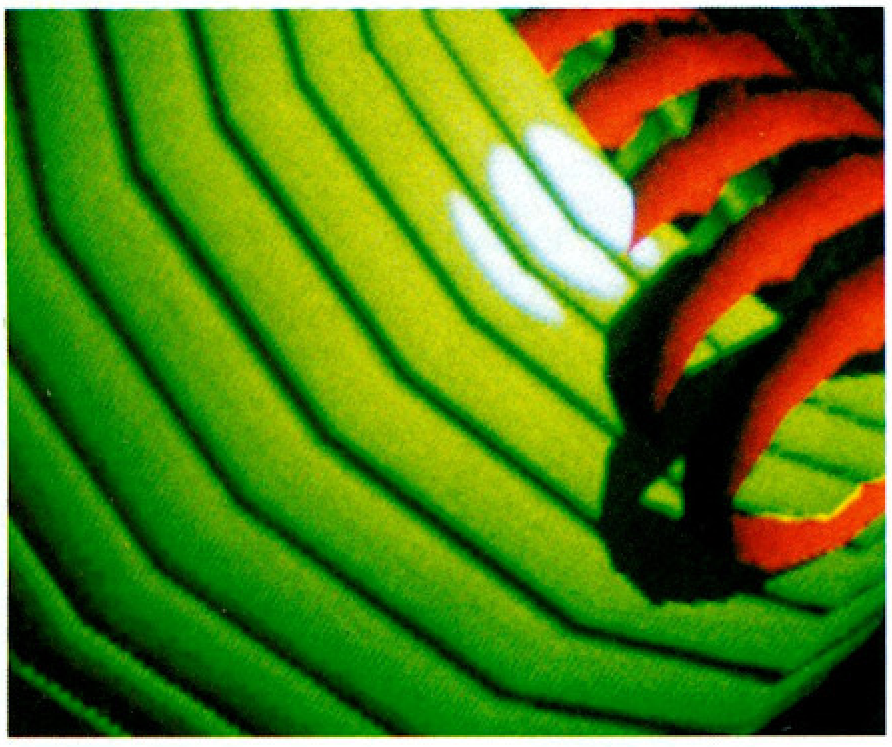
Using a computer, the traditional 'front', 'end', and 'plan' elevations of technical drawing are translated into x, y, and z planes and coordinates. Flat plans can be combined to produce full 3D views of components and buildings, observed from any angle. Exactly this process is also used by graphic designers to produce 3D models for animation, the now infamous RAY-TRACING used for TV station 'idents' and adverts. The Amiga now has at least 10 3D modelling systems of varying complexity and power. None of these is a true 3D CAD system but some are getting close.

Recent developments include helical spin (to form springs and threads), surface patches, and conversion of bitmapped shapes to structured outlines.

CAD has always been a bit of a weak area on the Amiga with no real professional system making its mark. **X-CAD Designer** (£99.95 Cadvision International 01 603 3313) seems to have changed all that. Providing a huge range of options, it is a very versatile package. Data can be entered either as a series of menu driven drawing commands or as text commands from the keyboard. Frequently-issued commands can be transfered to an on-screen 'palette' so that a user-defined list can be built up. These commands can be quite complex sets of instructions (in effect they are Macros), so sophisticated transformations can be applied at will. Many other facilities are provided including the ability to load and save files in the industry standard DXF format used by the huge MSDOS CAD system, AUTOCAD. *X-CAD Designer* can be upgraded to *X-CAD Professional*, more powerful and more expensive but using a similar interface.



The most powerful 3D modelling system for the Amiga is ►



■ **Like the images on our Contents pages, this one is a complex ray-traced image rendered with SA4D.**

probably **Sculpt-Animate 4D Professional** (£368.00 Byte By Byte/ Amiga Centre Scotland 031 5574242). It uses the same basic interface as all the *Sculpt* series, three windows corresponding to x, y and z or up/down, east/west and north/south. The commonly used gadgets are small icons around the windows, other tools are on menus. *SA4D* has many new modelling tools including helical spins, and the ability to build and store macros. Its rendering and animation tools are discussed below.

The best stand-alone 3D modeller is **Modeller 3D** (£69.95 Aegis/ Precision Software 01 330 7166). Again the traditional three windows are used for the three elevations, but a fourth is added to view the complete solid model. All of the normal sculpting tools are provided including lathe (spin a profile) and extrude, plus geometric primitives, layering etc. *Modeller 3D* is not a 3D CAD system but it is probably the closest thing we have yet on the Amiga.

A recently developed technique in professional computer modelling is the use of SURFACE PATCHES. Normal modelling methods tend to look rather mechanical so organic shapes are difficult to produce. Surface patches allow complex multiple curves to be created from a few curved lines. **Forms In Flight II** (£79.00 MicroMagic/ Amiga Centre Scotland 031 557 4242) uses surface patches as its primary modelling tool. This enables objects with multiple curves to be created with ease. Unfortunately *FiFII* has a clumsy menu driven interface, and a complicated single-window view of the object.



■ ***Forms in Flight II*: as intelligent as a dolphin.**

One of the great strengths of Apple Macintosh software has always been the range of programs that integrate bitmap and structured drawing styles. The high resolution of laser printed images has meant that structured illustrations are as important as bitmapped ones. On the Amiga the emphasis has been very much more towards-bitmap drawing, structured systems seeming much less glamorous. Recently Gold Disk released **Professional Draw** (£155 Gold Disk/ Precision Distribution 01 330 7166) in an attempt to reverse this trend. Certainly, as a first attempt *PDraw* goes a long towards providing a proper structured illustration system for DTP users. Hopefully it will soon be followed by an upgrade that is faster and that supports Pantone colours, postscript texture files, dithered postscript fills and autotracing of bitmaped images (turning edges into structured line drawings.)

This last omission has already been solved to some extent by **Digiworks** (Access Technologies/ Amiga Centre Scotland). It easily converts bitmapped paintings or digitised images into structured outlines for *Professional Draw,* or object files suitable for rendering in *SculptAnimate* or *Turbo Silver*. The initial conversion is very accurate providing the original outline is fairly smooth – and if not several tools are provided to clean up the outline. The *Amiga Format*/ Future image above was produced quickly and easily using *Digiworks*.

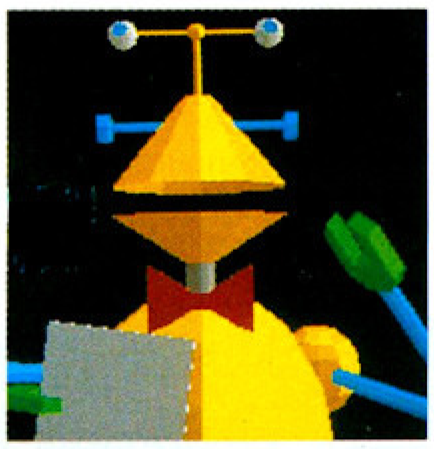
3D ANIMATION

Although several 2D animation systems use 3D transformations of bitmap objects, this is really only 2.5D animation because the objects only ever have two dimensions. True 3D animation can move, rotate and transform real looking objects through real looking space. Light sources can be set and controlled. Surfaces can have texture and shading across them. Objects can be transparent, reflective, metallic or even glowing; one shape can transform fluently into another – chicken flowing back into egg, gun metamorphosing into flower. All this can only happen if the modelling system is flexible and powerful. As well as modelling tools to sculpt the object (see above), the object editor must be able to position light sources, camera and target, define motion paths for objects and break down complex animated structures into hierarchies (joint, finger, hand, arm etc).

E-MOTION CONTROLLERS

At present only three systems offer any real control of all of the parameters involved in creating a complex and realistic 3D animation, Martin Hash's *Animator:* series, *VideoScape 3D* and *SculptAnimate 4D Professional,* though there are at least ten 3D animation systems in total. (Most offer good modelling and rendering but poor animation facilities.)

The **Hash Animator** series (Hash Enterprises. Amiga Centre Scotland 031 557 4242) is a unique and somewhat quirky system of animation that is just too complex to describe here. In future months there will be a feature describing the whole system.



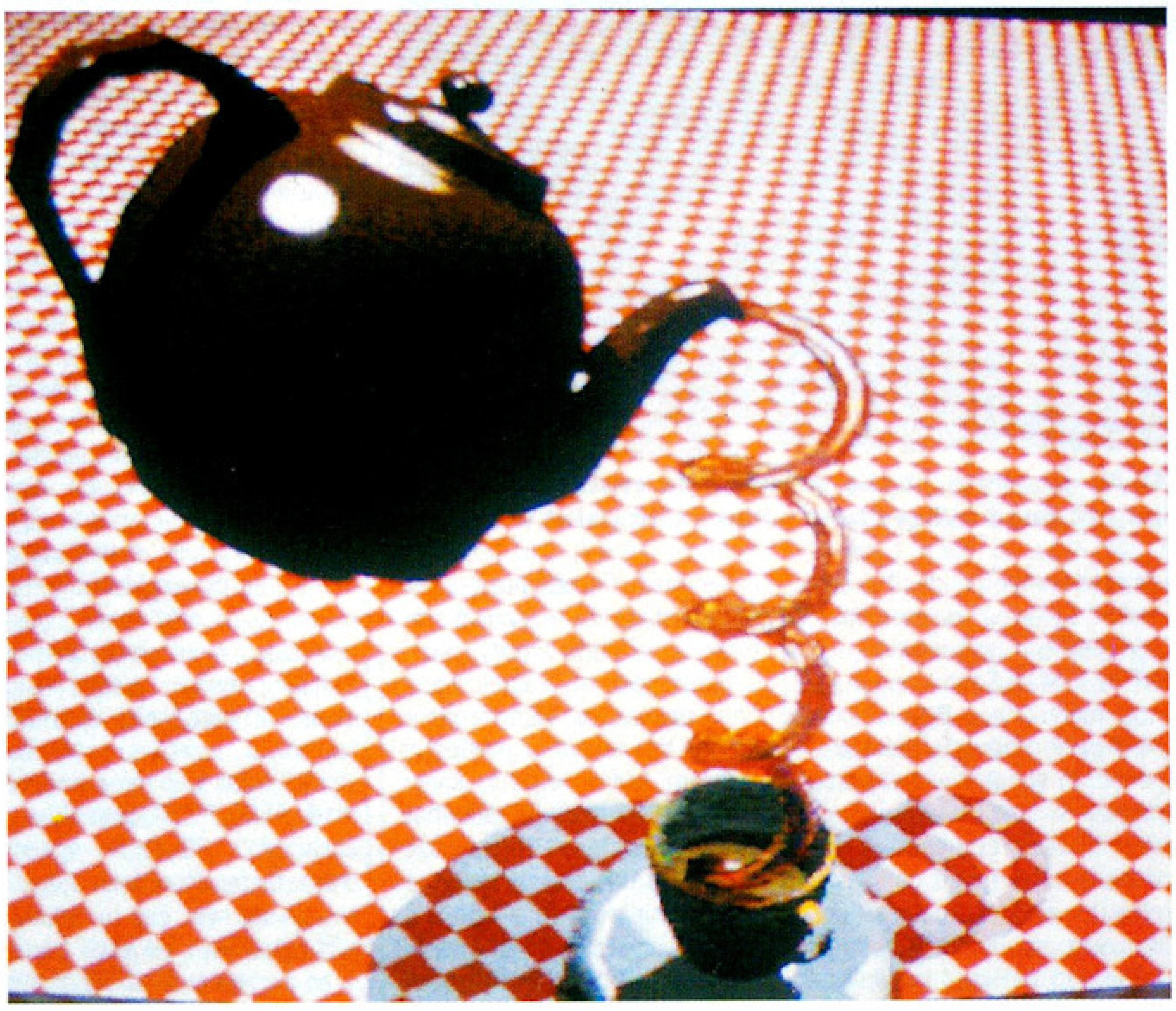
■ **The Bass Robot, produced with *Videoscape*.**

VideoScape3D (v2 £143.75 Aegis/ Precision Distribution 01 330 7166) is the original Amiga 3D animation system. Despite version 2 arriving early last year the basic system has not changed much. The learning curve is quite long and steep because, like most other Aegis products the interface used is rather un-ergonomic and difficult to learn. Nevertheless many fantastic sequences have been created using the system so it can't be all bad! Version 2 supports HAM so smooth shading of objects and reflective 'chrome' effects are now possible. Hierarchies and smooth complex camera motions are provided too.

SculptAnimate4D is my own personal favourite so I am more familiar with (and probably biased towards) it. The interface seems to be very intuitive and visual, and the modelling tools can also be used to create complex motion paths. All objects and parts can be named (and therefore selected and moved) individually. The names are recorded as part of a hierarchy. Two types of animation are used: key frame (with inbetweening) and global (using motion paths). This provides great flexibility. Seven rendering modes allow any balance of image quality to rendering speed. The biggest problem is probably the format used to compress the animations which is not compatible with the Aegis/Sparta ANIM format that has now become almost the standard format for Amiga animations.

The choice between *Animator, Videoscape* and *SA4D* is really very much a personal one as they are all so powerful, but they are also so different and take such a great commitment to learn them that it is difficult to switch at a later date. In future issues all three products will be covered in DIY 'tutorial' features so make your minds up then! ■

■ **The teapot with a helical stream of tea pouring from the spout was another *Sculpt-Animate 4D* job.**




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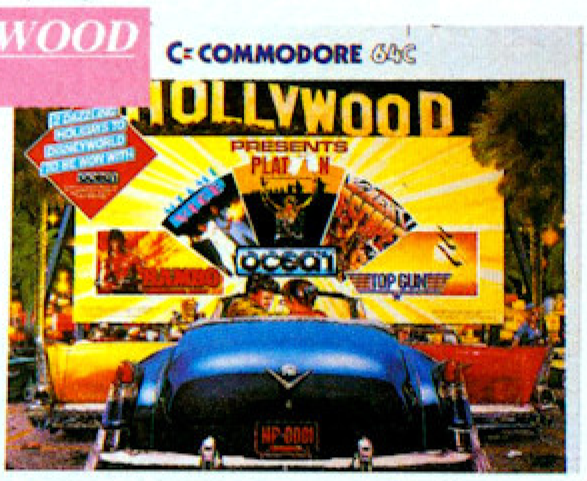
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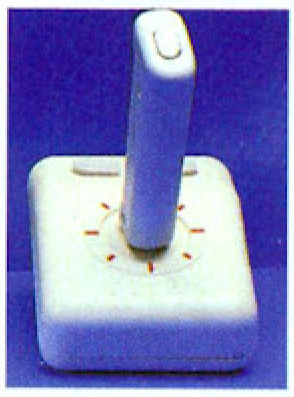
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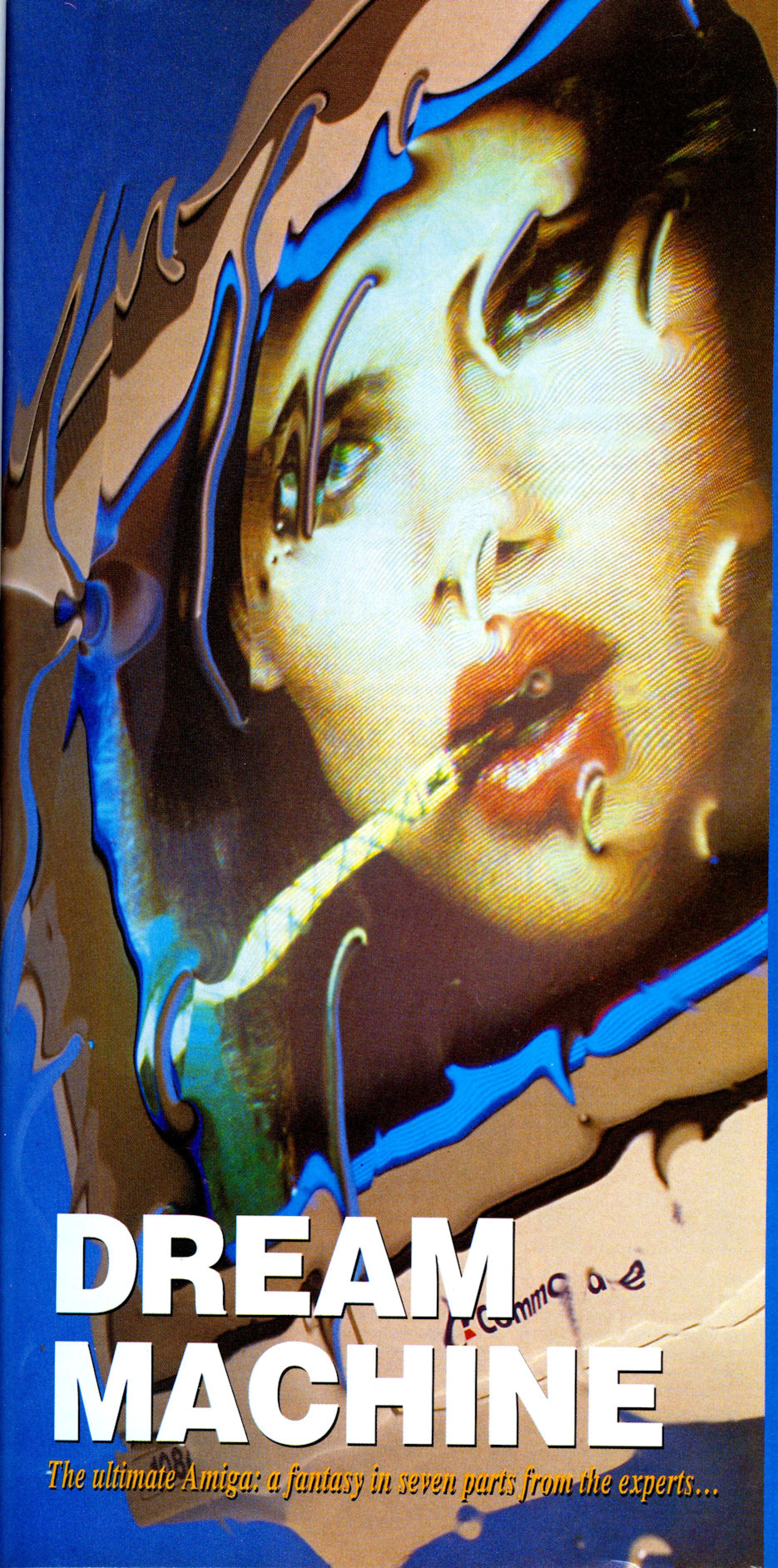
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DREAM MACHINE

The ultimate Amiga: a fantasy in seven parts from the experts...

THE ARTIST

BRIAN LARKMAN

As well as doing the graphics pages he lectures in computer art and design – a great background for designing a machine with ideal graphic capabilities.

The ideal Amiga is built specifically for the graphic artist and animator. The starting point, therefore, is the display. It has an extremely high definition screen display providing 'true colour', which in practice means 2000 x 2000 pixel resolution and about 16 million colours on screen. It is able to animate these screens and mix them with a wide range of standard video sources.

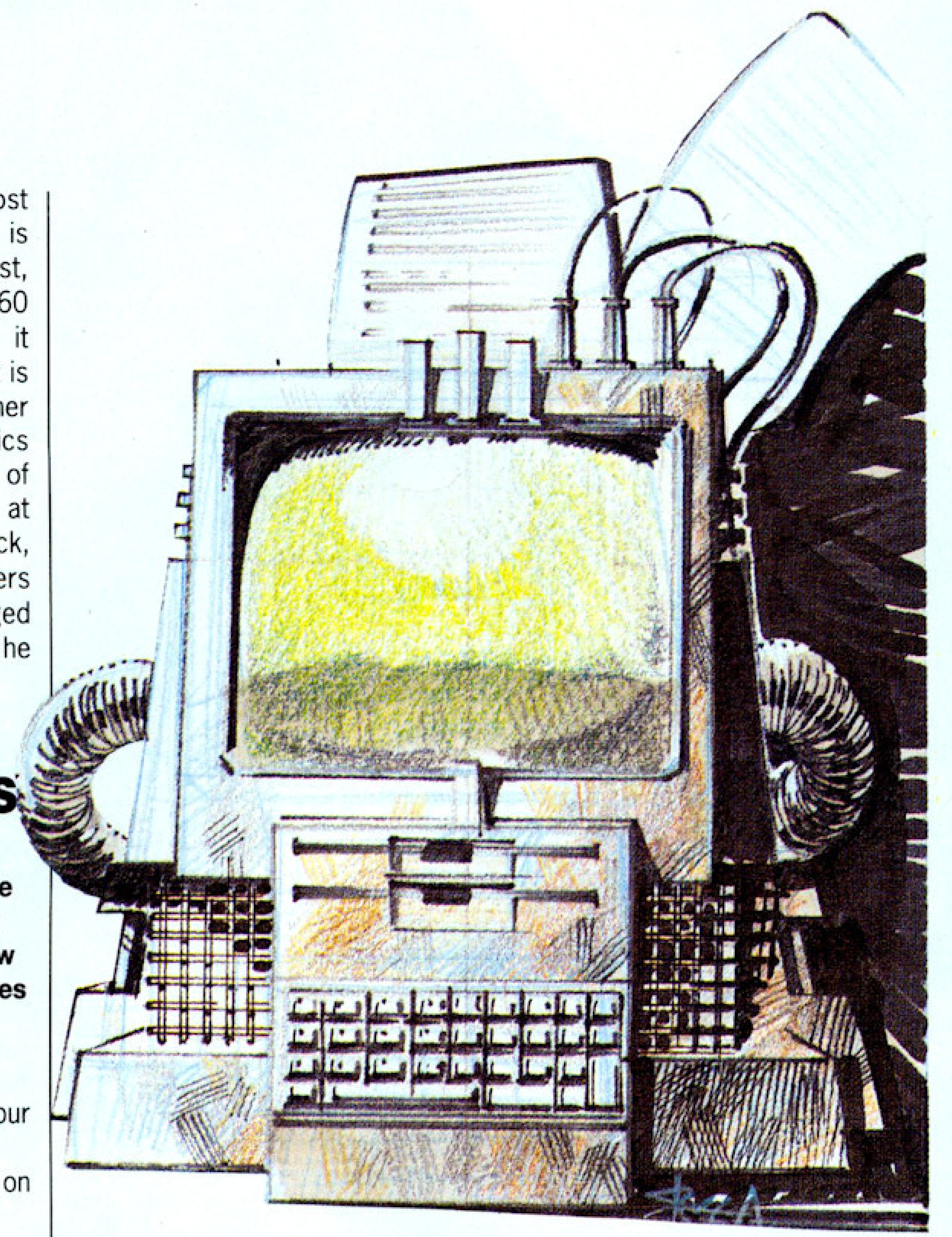
The most important aspect of this 'ideal' machine is that it is easy to handle, never getting between the idea and its execution: it is truly intuitive. A good step already has been the widespread introduction of the WIMP interface, but even this is limited. The ideal interface allows the user to work direct on the screen, at a slight angle to the dektop, using a wireless stylus or an ordinary pen or pencil. The screen is matt, flat and of variable density so that it has a slight 'give' during drawing, but much more when pressing buttons or icons. In effect it is a combination of flat-screen technology and Anakin's Easyl

To use this specification comfortably, the machine has to be very fast, using a development of the Intel i860 RISC chip, and has access to many gigabytes of RAM and storage, for full-colour and high definition are very memory intensive. Nevertheless, all forms of bitmap transformation and image processing that the original Amiga could do on 32 or 4096 colur screens are all available on 'true colour' ones, and many times faster.

"The most important aspect of this 'ideal' machine is that it is easy to handle, never getting between the idea and its execution"

Similarly, all forms of 3D modelling and rendering are many times faster and allow much more compexity while still using ▸

the full pallette. All but the most complex ray-traced animation is rendered in real time, or at worst, one frame per second. The i860 derivative helps here because it includes 3D graphics routines. It is still necessary to provide other custom chips to deal with graphics and sound, though this type of hardware is a bit out of fashion at present. Full-featured genlock, scanning/digitising, frame buffers and MIDI hardware are all plugged into easy-to-access sockets in he rack-mounted CPU unit.



■ **Taken to an extreme: the Ultimate Games Machine. The keyboard is of little importance, and the 'feel' becomes all-important.**

THE GAME PROGRAMMERS

GLENN CORPES

Bullfrog are the creators of the enormously succesful game *Populous* – who better to know what 's needed for a great games machine. Spokesman Glenn Corpes lists their ideas.

A proper 256 (or more) colour mode – HAM mode is pointless.

■ At least 1 Meg of memory on the base machine.

■ A 16 Meg 68030 chip at least.

■ Real time clock as standard.

■ Real vector support on the blitter – ie actually faster than doing it with the processor.

■ Hardware sprites of ANY size, so that all the windows are actually sprites, would make windowing OS and scrolly games very simple.

■ Better make that 2 Meg of memory.

■ Sprite scaling and rotation.

■ Built-in Midi for cheaper/faster cables for multi-machine games as well as for music purposes.

■ The ability to plug a second monitor or TV into the machine, but displaying a different wad of screen memory, for easier debugging AND making multi-player/multi-screen games possible on a single machine!

■ Two mice to cope with the above.

■ Built-in stereo sound sampler and microphone to let anyone play around with sampling and speech recognition.

■ Four joystick ports.

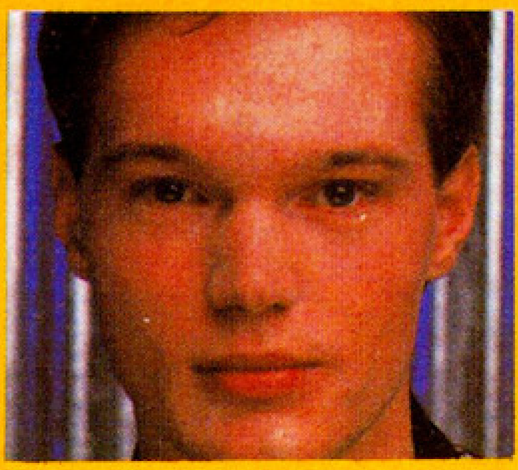
■ Finish the operating system before releasing it.

■ A standard, multi-button, twist-top joystick like some arcade machines.

■ Better make that 4 Meg of memory.

THE PROPELLER-HEAD

JASON HOLBORN



Jason Holborn, technical editor, has been hooked on the Amiga ever since it first appeared and has tinkered with it so much that there's not much he does not know about it. So what would he like to happen next?

Being a propeller head (or at least that's what the rest of the *Format* team calls me!), my dream Amiga would be packed full of the latest and fastest add-on hardware to turn it into a true bank manager's nightmare. For starters, the machine would be driven by a 68040 processor, backed up by a 68882 maths co-processor to give the Workbench calculator tool a little extra spurt of speed! Memory would be a full eight megabytes.

The Amiga multi-tasking system would have to be re-written from scatch (good thing too!) to include support for true task security using hardware-based memory mangement (no more trashing another program's workspace and bringing the whole system down in one foul opcode!).

Screen resolution would be knocked up to 1024 by 1024 pixels with at least 512 colours onscreen simultaneously, picked from a colour palette of over 16 million colours. All pixels must be completely independent of all those around them therefore ridding the machine of the binding limitations of HAM mode.

The Amiga custom chips are all very nice, but my dream Amiga would actually use Konix's blitter in preference to the current one as it is considerably more powerful (ask anyone who has seen it and they'll agree!) For music, the current Amiga sound hardware would be dropped straight away, and the sound hardware of a Fairlight CMI (version 3 at least!) installed in its place! As well as being a Tech Ed on *Amiga Format*, I'm also a musician and so my dream Amiga wouldn't be complete without the inclusion of a full-spec MIDI interface (two 'IN's, four 'OUTS' and two 'THRU's).

Where add-ons are concerned, an 80 MB SCSI hard drive and tape streamer (for backing up the hard drive!) is a neccessity. Being a bit of a Unix fan, I'd also like to have Commodore's new Amix Unix card installed as standard. For dessert, I'd like ReadySoft's A-Max emulator (plus a Mac-compatible drive) installed internally, therefore allowing me access to an Amiga, a Unix Workstation and a Macintosh at any time. Oh well, time to wake up and get on with my writing...

THE APPLICATIONS PROGRAMMER

DAVE PARKINSON

Ariadne produced the BBC emulator and are heavily involved with interactive video projects. Dave Parkinson is part of their development team and has some interesting thoughts on the technical side of things.

Besides obvious things – higher screen resolutions, more colours, more (and faster) memory, 16-bit sound etc – I would like to see the provision of a Memory Management Unit and an alternative object-orientated DOS.

Ideally it should be possible to run old and new DOS programs simultaneously – though not on the same disk partition. The MMU would have to be capable of putting old-DOS programs all together in one big 'public' memory pool; this is because although the original system does make some provision for MMU compatibility with flags like MEMF_PUBLIC, this is not much used by existing software.

"I would like to see the provision of a Memory Management Unit and an alternative object-orientated DOS"

New-DOS programs would run under the control of the MMU, so that it was not possible for a new-DOS program to crash and bring down the whole machine. The DOS would be built on a version of Exec, extended to handle the MMU, and would provide memory and resource tracking etc, so that it would be possible to say 'that process has gone rogue – kill it.'

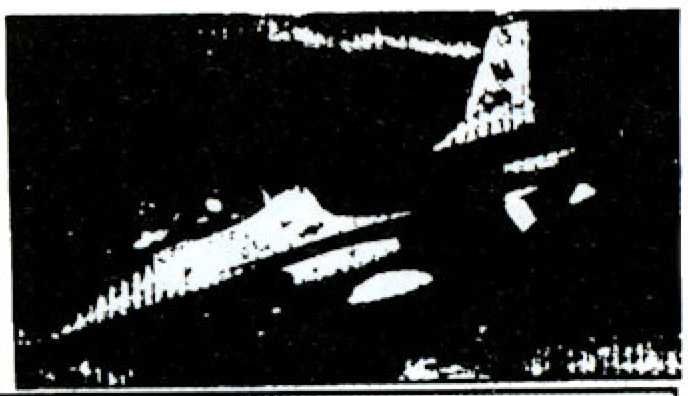
The new-DOS would work not in terms of files but of 'objects' with a number of attributes, including (optional) iconic information, so that there would be no more .info files. The filing system would be reorganised for maximum possible speed of access of objects given some key, not on filename.

"Get with it Commodore"

The feasibility of this? Tricky but not impossible, and ARP (AmigaDos Replacement Project) has made a start already. Get with it, Commodore!



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THE SERIOUS PROGRAMMER
ANDY PENNELL

HiSoft are one of the leading developers of serious software, producing acclaimed and widely used programs like Lattice C and Devpac. Andy Pennell heads the programming team, making him amply qualified to speculate on what the Dream Amiga should be.

"My Dream Machine would need to run as fast as possible with a little extra in the graphics department, based on an Amiga with three processors and several ROM sets. It would have a 33MHz 68030, or similar speed 68040 if available, 68882 maths co-processor, and regular 8MHz 68000. I would include the ordinary 68000 so that all those sloppily written arcade games would run and leave it at 8MHz so they would still be playable!

To really make the most of a 68030 Kickstart 1.4 would be needed, but for backward compatibility Kickstarts 1.2 and 1.3 should also be supplied so you can switch between them as required. In fact reverting to the old A1000 concept of write-protected Kickstart RAM would allow any version of Kickstart to be used.

Apart from having the standard Amiga graphics, an Obese Agnus chip would be included that allowed, say, 8 Megs of chip memory and some much more useful screen modes, with flexible high resolution modes combined with a vast number of colours, like the Mac II range. Some hardware support in the form of a new custom chip to help out render-

"I would include the ordinary 68000 so that all those sloppily written arcade games would run"

ing text on the screen is also long overdue.

The final addition would be some industry-standard network hardware, such as AppleTalk, which is easy to implement, cheap to expand but extremely useful for many power users."

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THE GAMES PLAYER
ANDY SMITH

Andy Smith, Reviews Editor, knows exactly what he wants from a game and, therefore, exactly what the hardware has to deliver. He has some novel ideas on how to develop the ultimate games machine.

The ideal machine for a games player should have is at least three built-in drives to stop infuriating disk swopping once and for all. Then it should have four joystick ports and a mouse port – all in an easily accessible area. The monitor (doesn't have to be built-in) should have the ability to turn into an ordinary television at the flick of a switch.

"make the keyboard completely waterproof"

A separate pause key on the keyboard, so you don't have to fiddle around trying to find the right key – then every game could use the same key to pause the game, oh and make the keyboard completely waterproof.

THE MUSICIAN
JON BATES

What should the Dream Machine sound like? A man with strong, well informed views on that is Jon Bates, the keyboard maestro who writes the music pages.

Obviously the first thing should be the inclusion of on-board MIDI ports to save all the hassle of interfaces and also free up the serial port. With only some minor expenditure on some audio filters and DAC routines the sound, which is already good, could actually beat the quality of professional samplers. Equally important would be a built-in ROM to give sensible control over the sound peripherals which should give you something approaching FM type sounds. Just to spice up the flavour it would be nice to have the option to add an additional Paula sound chip to the board so as to double up on the sound: extremely complex waveforms could then be created and it would be able to give synthesizers an extremely good run for their money."

"It would be able to give good synthesisers a run for their money"

WHAT'S YOUR DREAM?

You have read and seen what just a few experts think the next Amiga should be like, so what do you think? Write and let us know and with a bit of luck some of the bright ideas will reach Commodore. ■

CONCLUSION

Several aspects come through clearly from virtually everyone – the continuing desire for more speed and power. Faster processors, more memory, higher resolution graphics and more colours all feature strongly. The good news is that current developments seem to be satisfying most of these desires.

The Enhanced Chip Set and chips like the 68030 will deliver increased speed and better graphics handling. These may well be supplied as standard with the long awaited A3000. It should also satisfy the memory hungry programmers with much more of that.

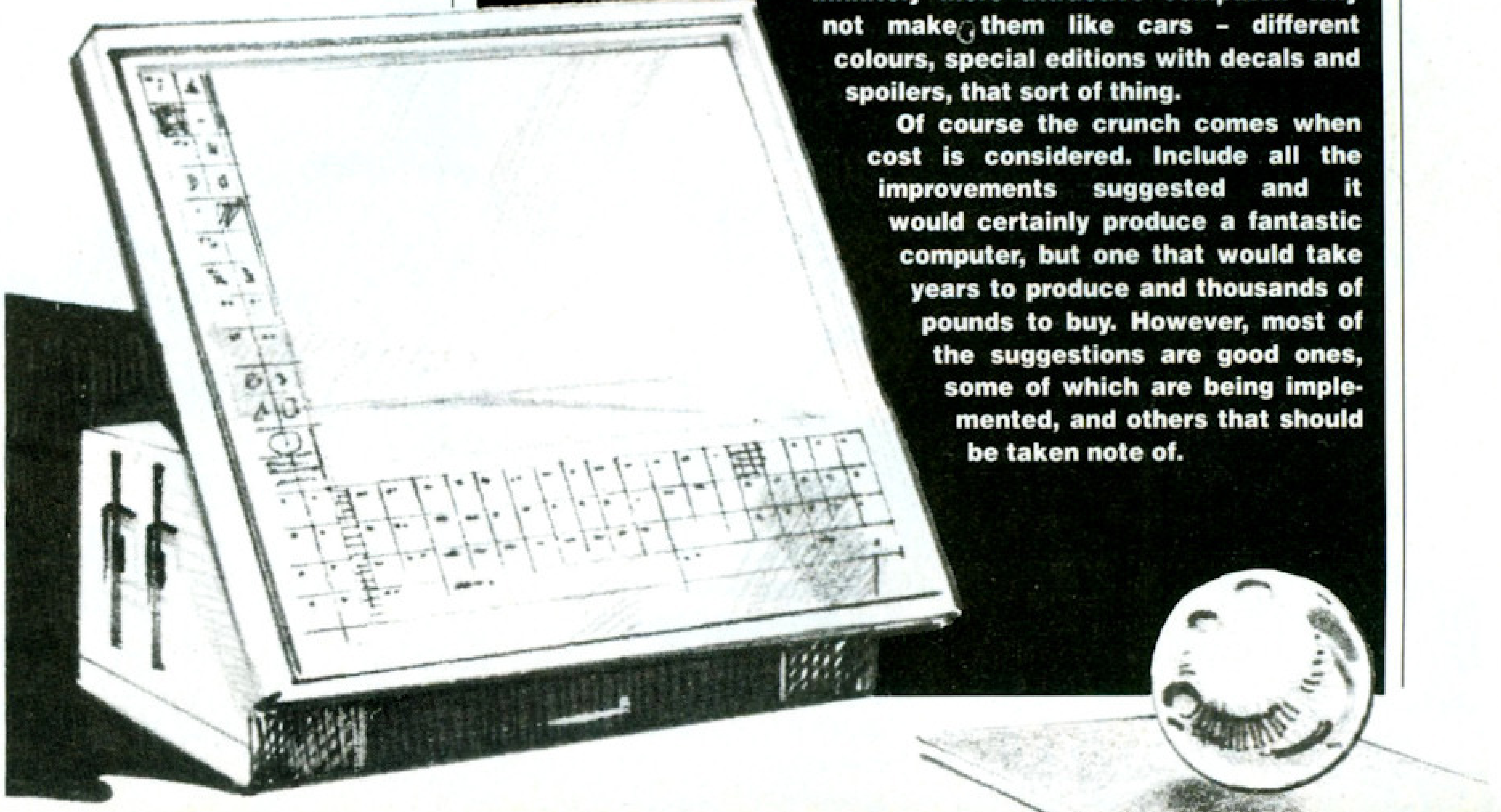
The built-in Midi port is also a popular idea and would remove one of the critical comparisons made between the Amiga and the ST.

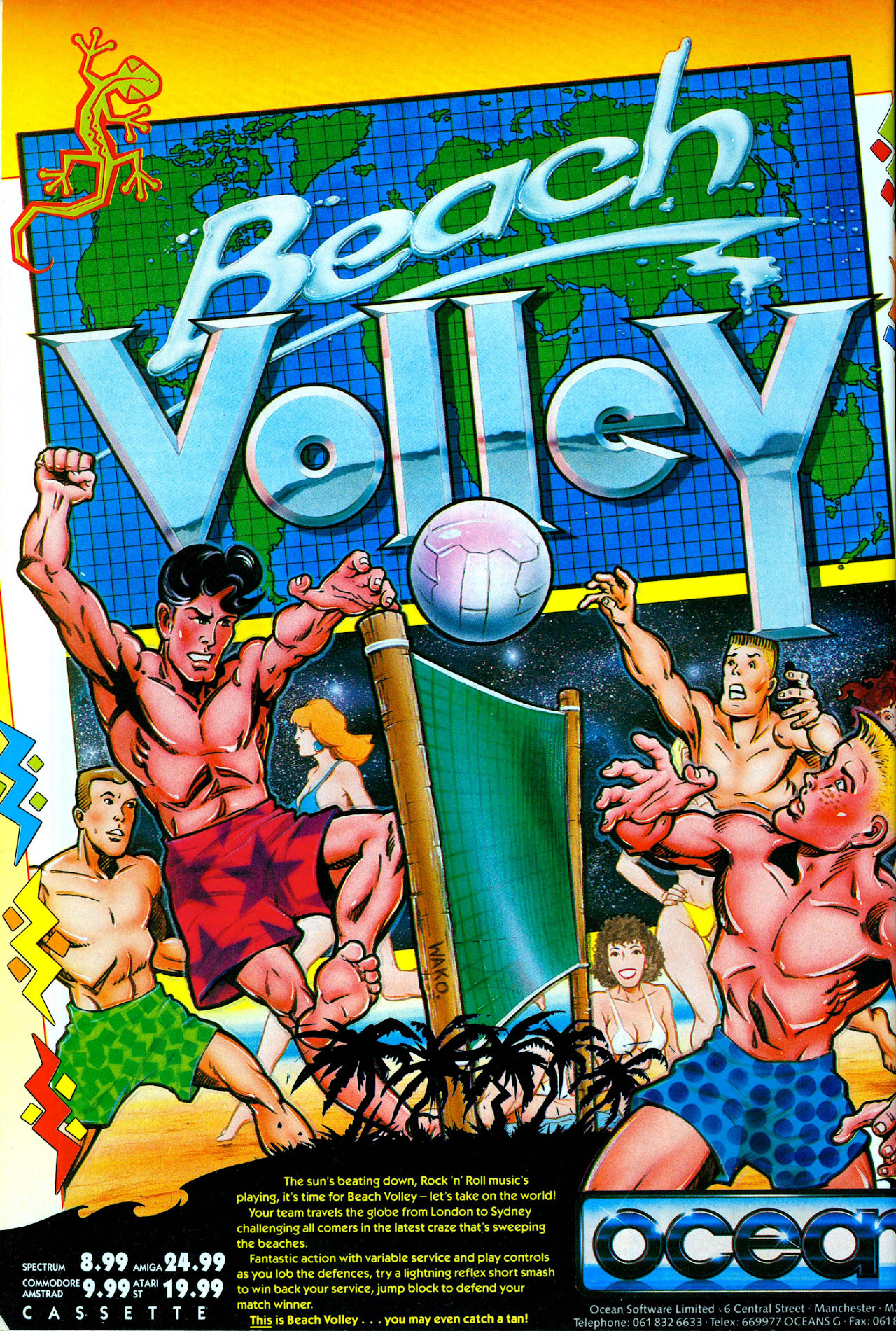
The ideas for producing a better games machine are more radical and more expensive too. However, there is no reason why many of the ideas like extra joystick ports, separate pause buttons, sprite handling, multiple monitors couldn't be implemented and most of them at only a small cost in terms of time and money.

Easier networking is also an excellent idea that would greatly enhance the Amiga's serious usage particularly in the areas of education and desktop publishing. A built in monitor and extra disk or hard drive would also enhance its prospects as a work station.

The looks of the machine are also important. If you have a state-of-the-art computer producing amazing graphics and sound – shouldn't it have a state-of-the-art box design. Computers have always been designed in the cheapest cream/black/grey box possible with no concern for aesthetics. Wouldn't you pay a few quid extra for a machine that looked good? It would not take much in the way of styling and colour to make an infinitely more attractive computer. Why not make them like cars – different colours, special editions with decals and spoilers, that sort of thing.

Of course the crunch comes when cost is considered. Include all the improvements suggested and it would certainly produce a fantastic computer, but one that would take years to produce and thousands of pounds to buy. However, most of the suggestions are good ones, some of which are being implemented, and others that should be taken note of.




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SCREEN PLAY

Near misses and close calls are the theme of this issue. *Rick Dangerous, Sleeping Gods Lie* and others all came very close to attaining the coveted Amiga Format Gold – perhaps twelve months ago, they all would have – but only *Kult* scooped it. Amiga games at present are getting better by the month, and we have to alter our outlook slightly to reflect that. Still, the next twelve pages are all action-packed, so grab some popcorn, sit back and enjoy.

THE RATINGS EXPLAINED

GRAPHICS
Good graphics are an important part of any game: if the power is there, it should be used to the full. Both still and moving graphics come under scrutiny in this rating, but remember, graphics alone do not a game make...

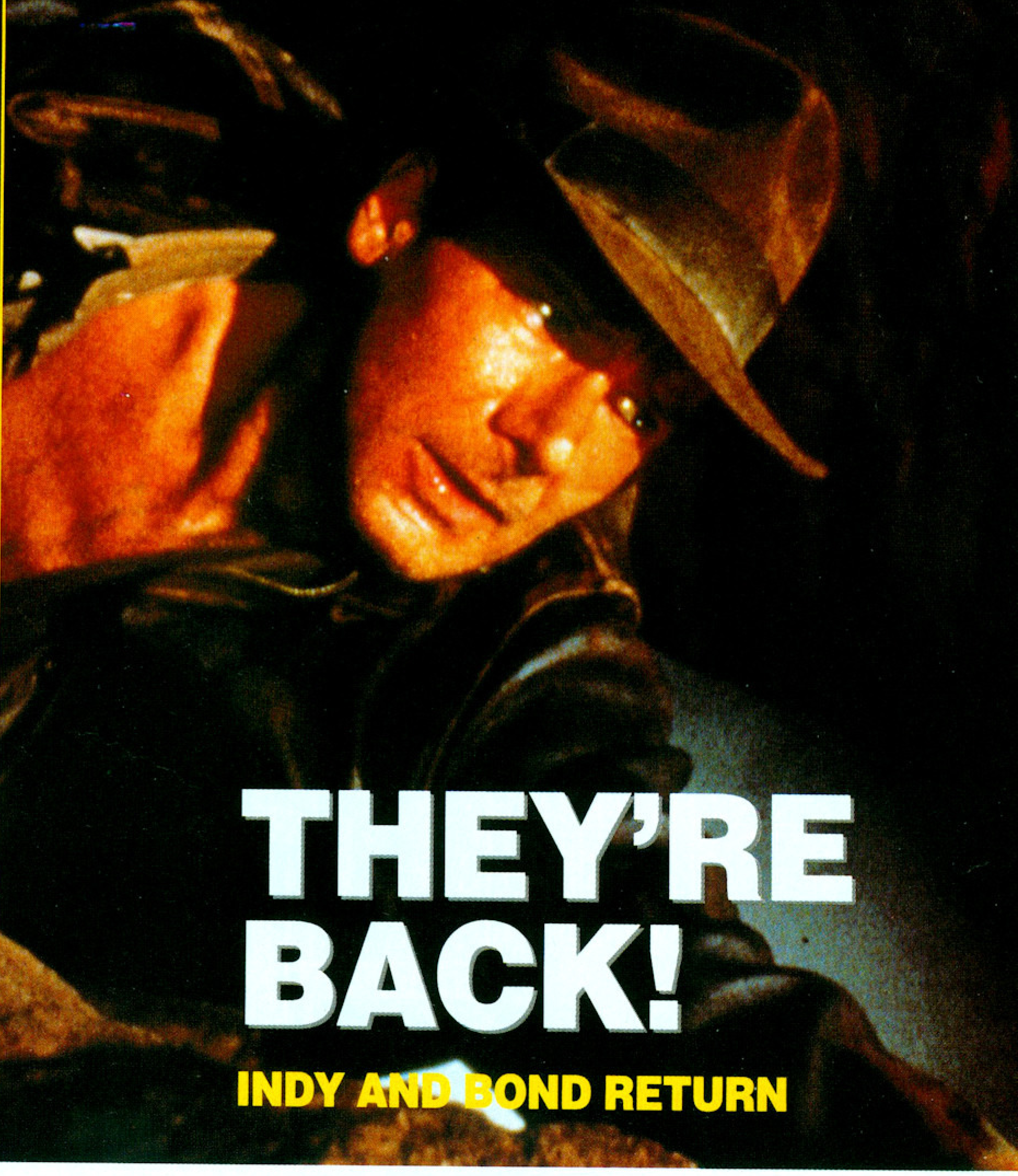
SOUND
With stereo capabilities the last thing you want to hear are Spectrumesque beeps, right? Title tunes and effects all add atmosphere to a game and good sound can greatly increase your enjoyment of a game.

INTELLECT
How much real thought do you have to put in to play the game? Just because a game's mindless doesn't mean it's bad, but a game with a high Intellect rating says immediately you'll need to think to gain maximum enjoyment.

ADDICTION
How easy is a game to pick up and play? How much sheer fun will you get from it? Will you keep coming back? Important questions that are answered when you check the Addiction rating.

OVERALL
A percentage mark that takes into account all the above ratings, plus the added extras like price, packaging and documentation.

THE TEAM
Andy Smith, who was with ACE right from Issue One, is a 'twelve-hours-a-day' games fan and one of life's natural gamesplayers. He loves any type of game, be it a shoot-em-up, strategy game, arcade adventure... *Bob Wade* started reviewing with Personal Computer Games and has worked for Zzap!64, Amstrad Action and ACE. There's no-one in the business with a better idea of what makes a game.



THEY'RE BACK!

INDY AND BOND RETURN

PLUS: KULT ■ RICK DANGEROUS ■ FOFT ■ FIRE BRIGADE

KULT

INFOGRAMES £24.95 Mouse

Subtitled 'The Temple of Flying Saucers' this game has more than your average scenario. It has a whole world built around it: a world which has become divided since The Burn, a world in which Protozorqs and Normals share an uneasy coexistence and where PSI-mutant Normals, Tuners, are despised by everyone.

The Protozorqs are a primitive but powerful race. They worship hideous Gods who, they believe, will save them from their miserable lives of shame and guilt. The Normals are weak and are subject to the discreet rule of a group of Tuners know as the Netwerk.

Recently, the Protozorqs have become blood-crazed. They believe their God, Zorq, is about to return and have set about destroying as many Normals as they can get their Zapsticks on. It's during one of these fights that you – a young Tuner called Raven – see your girlfriend, Sci Fi, taken by the Protozorqs to their temple.

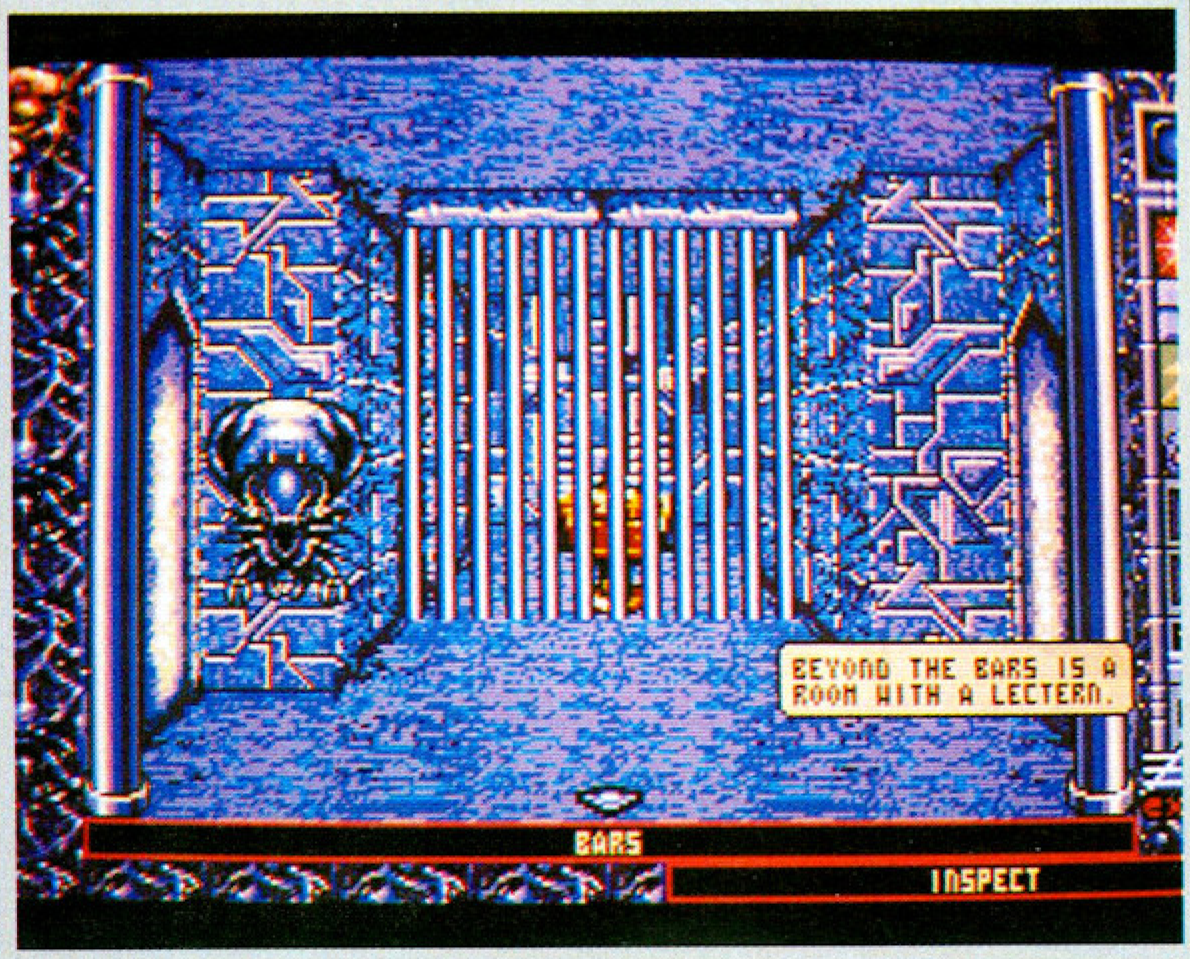
This is where the icon-driven adventure cum puzzle game starts. You've become an Aspirant, a Normal who must undertake five tasks and receive a skull for completing each, in order to become a Divo, a messenger of Zorq. This status gives you access to the second level of the temple where you think Sci Fi is being held.

Controlling your actions involves moving the cursor around the screen until it changes to red on an object or doorway indicating that you can interact with it. Click the mouse button and a representation of your brain appears with various thought nodes surrounding it. Point to the nodes and decide which action you'd like to take. For example, click on something in your possession, say a goblet, and your thoughts will be: fill goblet, empty, put down, put in, throw, throw away, give or inspect. Select an option you think is best (put in, for example) and then move the mouse pointer to the area of the screen you think appropriate (perhaps that statue's open mouth?)

Suppose you decide to undertake the tasks – bursting out to the second level can prove tough because the place is swarming with Protozorq guards who are Zapstick happy – you'll soon find that you need an object to complete each one. The goblet is required to solve the room know as The Twins, and once solved you receive a skull which you can take to the Trader. Give him the skull and you get a



■ Norma Jean and Ash, two runaway Tuners hiding out in the tunnel network beneath the temple – but why might Ash be sitting down?



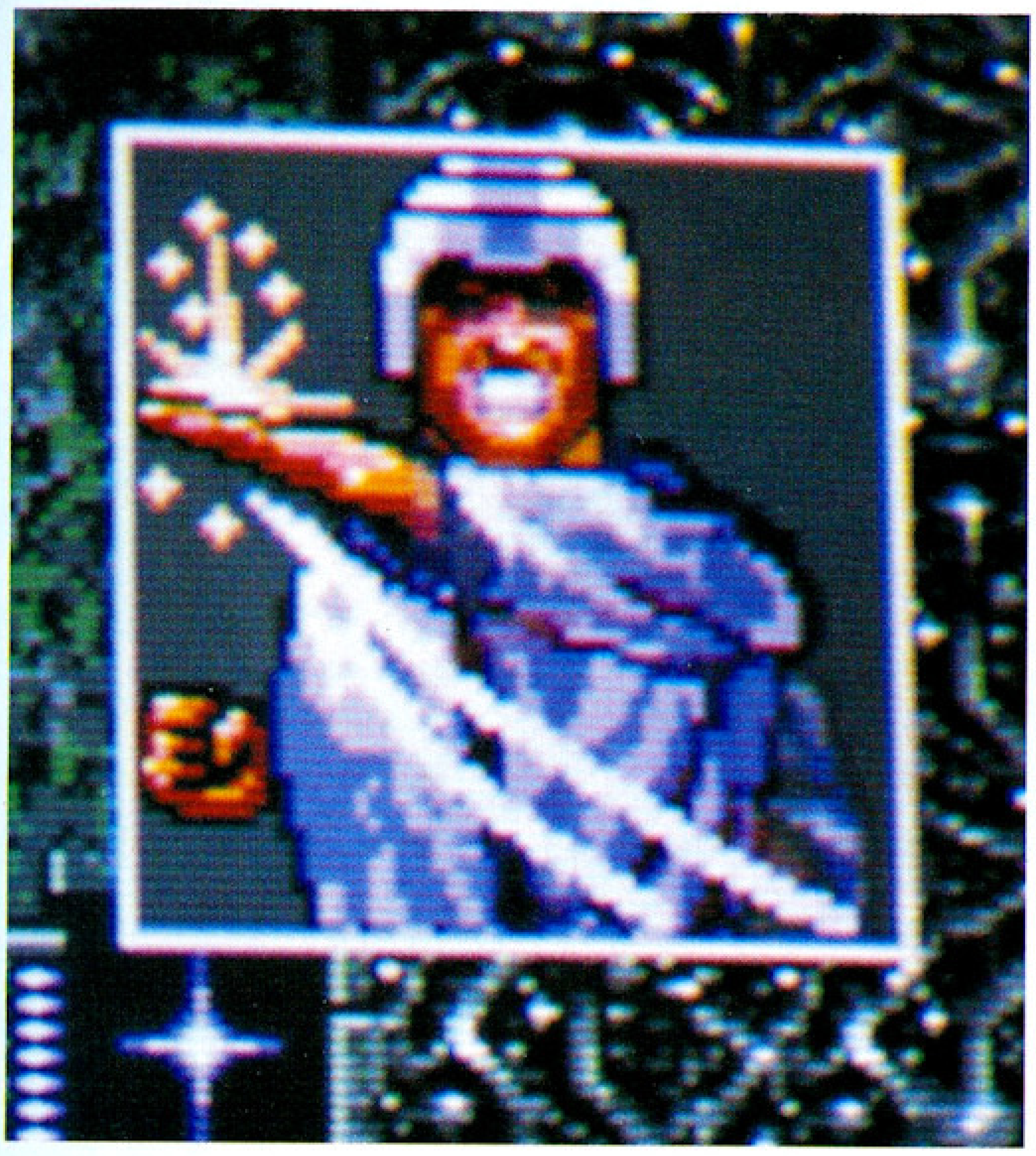
■ Up on the second level. Behind the bars the book of Shame is locked away safe from prying eyes: the question is, how can you get to it?



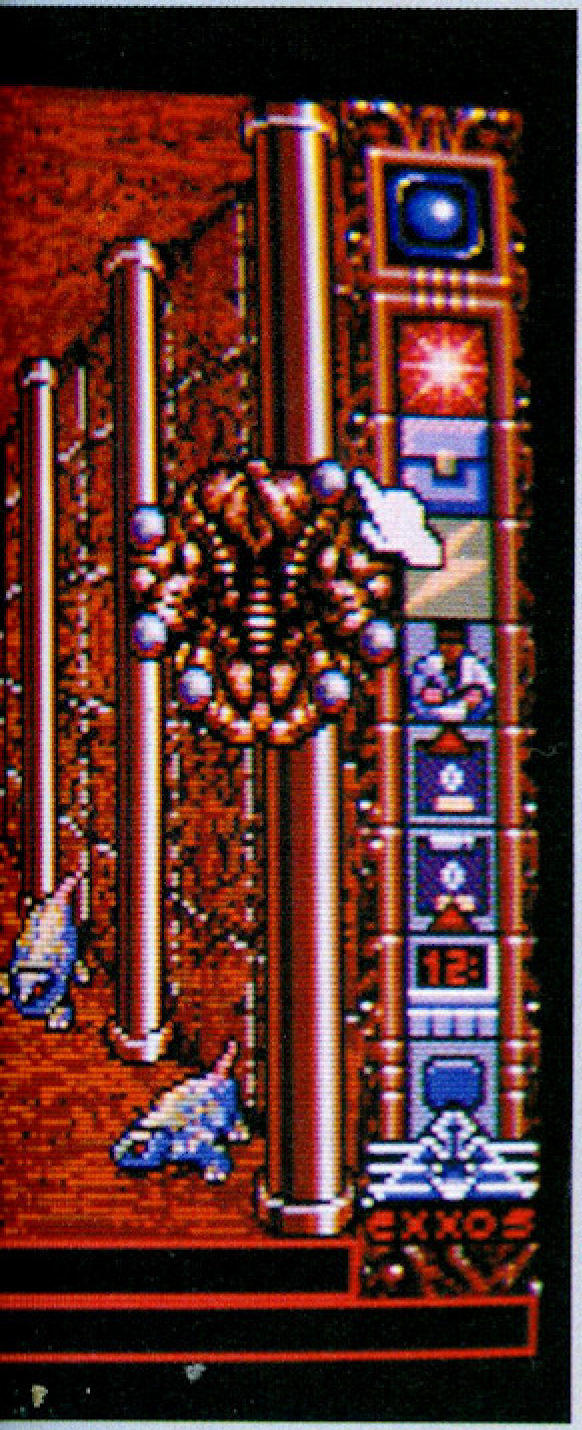
■ Saura is high priestess and executioner extraordinaire. Is she really as bad as she seems?

GRAPHICS AND SOUND

Visually, Kult is typically French, with great graphics often presented in a comic-book fashion that add heaps of atmosphere. The sound effects, of which there aren't too many, are also good. All round, it's good looking, good sounding and great to play. Let's hope Ere can keep producing games as good and as varied as their last three have been.



chance to change your object for another you need, but only if you can beat him at a game of 'find the lady.' Fail and the problems start. How are you going to solve The Wall room without the dagger?



Simple, you can't. Your only hope is to find another Aspirant – there are several wandering around – and either trade items or mug him.

There is however, at least one room that can be solved without an object (you're a Tuner, remember, so you do have some special PSI powers you can call on from time to time) and you can come out of it with a skull and an object to trade, so don't despair.

Suppose you solve all five rooms, become a Divo and are allowed access to the second level, you'll find your problems only just beginning as you try to solve yet more, and not so obvious, puzzles in rooms and avoid ending up as a sacrifice to temporary god Delios.

A great plot, good gameplay, mean puzzles which can all be solved logically plus the simple but effective game structure and a massive game task all add up to make Kult a superb game.

● ***Andy Smith***

GRAPHICS	8
SOUND	7
INTELLECT	8
ADDICTION	8
OVERALL	**92%**



■ The start of the game and the start of one of the five ordeals...



■ Examine the statue on the right and it'll prompt you to go through the door in front.



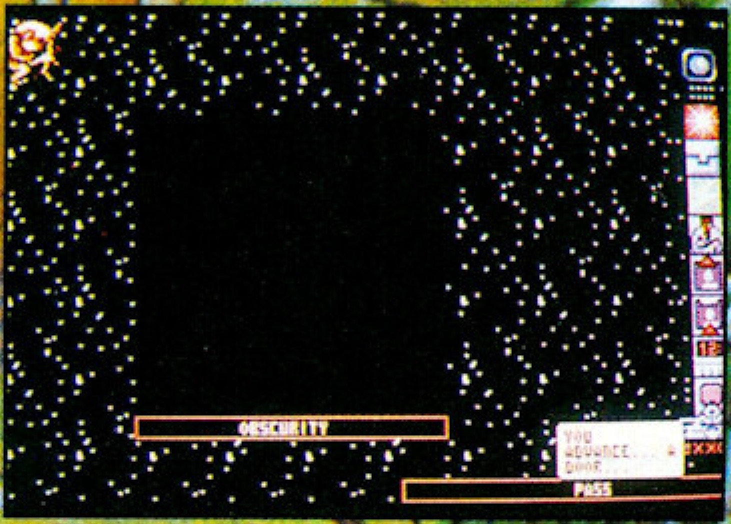
■ Give the fly to The Mistress and take your pick – choose the wrong one and you'll be blue...



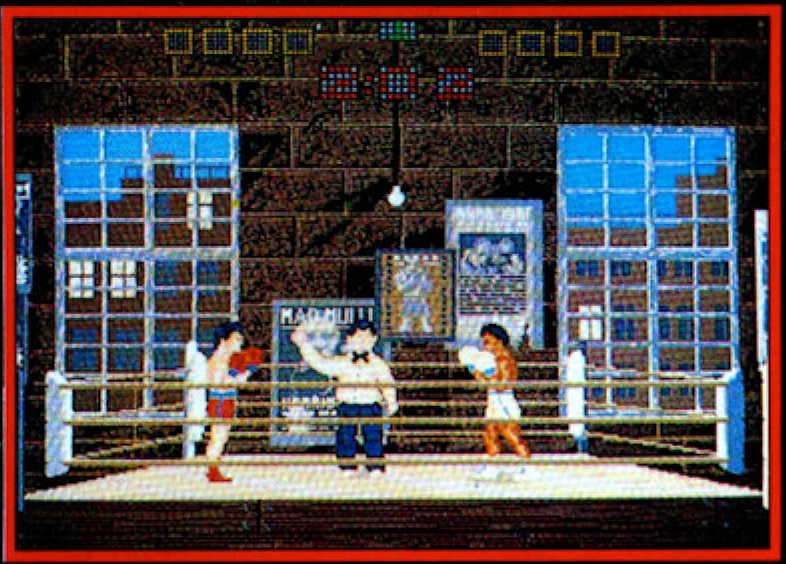
■ Feed the spider you chose to the statue and...

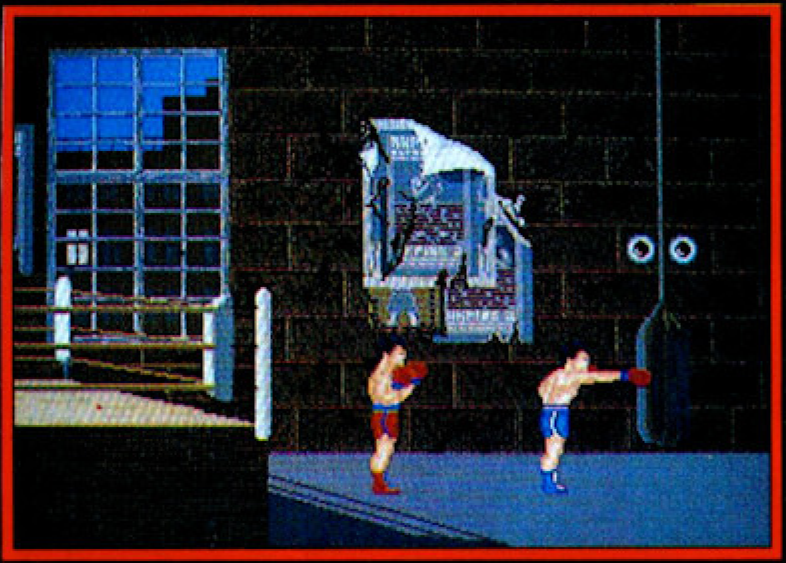


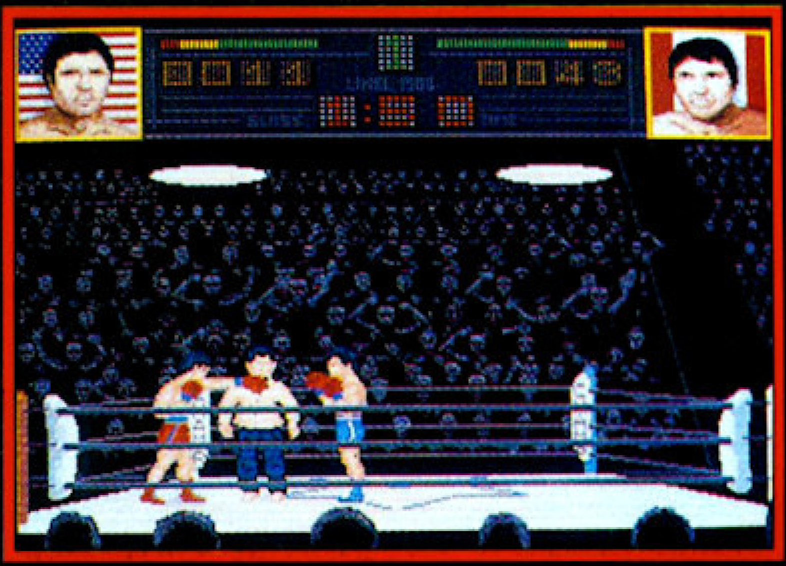
■ A trapdoor is revealed. Enter the room and...

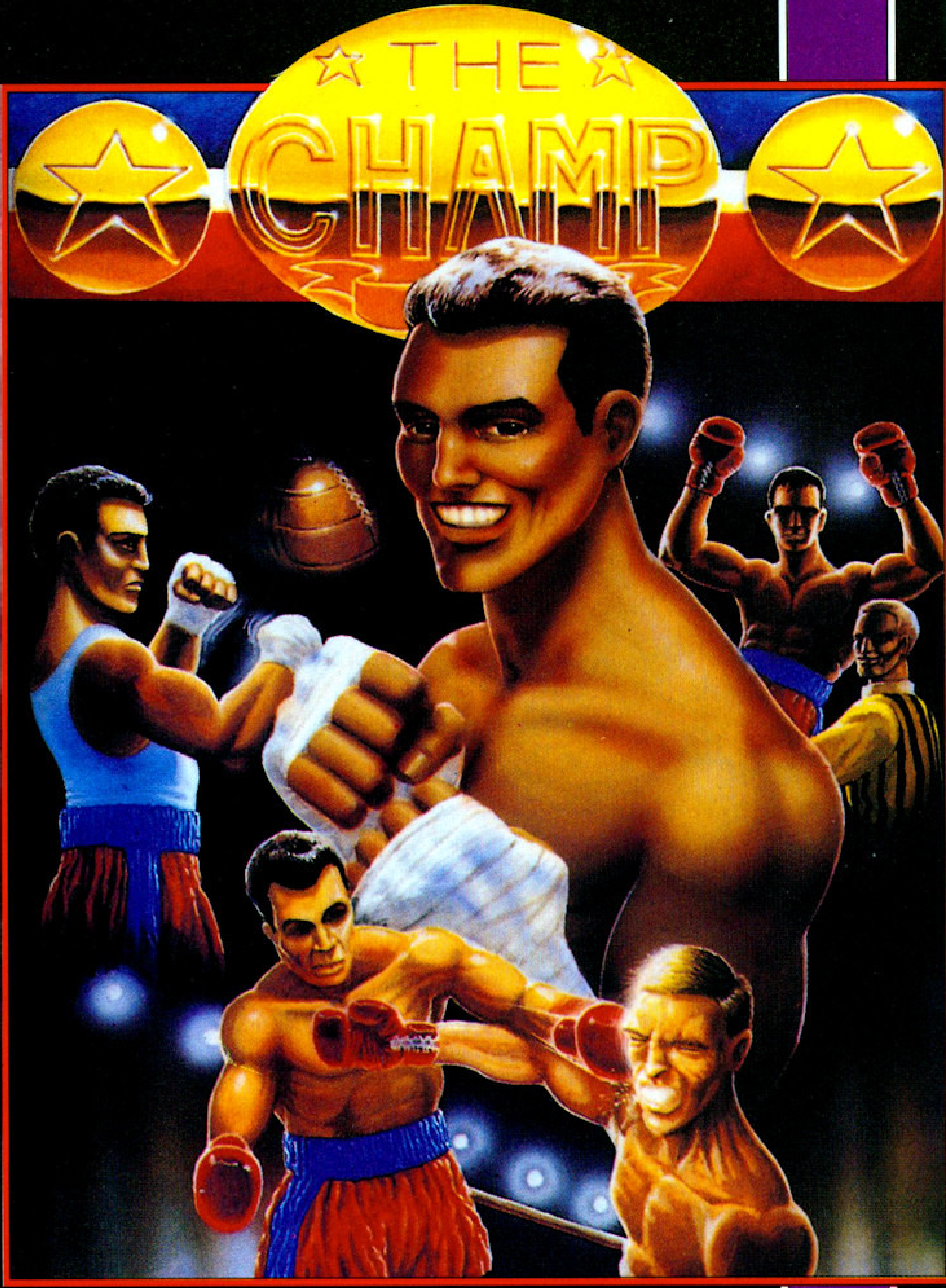


■ Collect your skull. Now you can go on and try the next ordeal.











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RICK DANGEROUS

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The man with the hat, the silly grin, the little legs and the pointy stick is here, and this time he's brought his gun. Stamp collector and part-time explorer Rick was searching for the lost Goolu tribe when he crashed his plane in the Amazon. He was grabbed by the Goolus and taken to their temple, from which he must now escape.

This side-on viewed platform game is full of puzzles, timing problems, nasty tricks and... fun. Armed only with a six-shooter, a fistful of dynamite and a pointy stick, Rick works his way through the temple collecting treasure for points and either avoiding or destroying the Goolu guards. Most of the guards follow strict patrol paths, so it's often just a timing problem, but some guards who 'home in' on Rick can be a little trickier to dispose of.

Fortunately, guards only prove deadly if you actually touch them, in which case you lose one of an initial six lives. Most can be disposed of from a distance, but ammunition is limited and boxes with fresh supplies are few and far-between. If you should run out of bullets, you can always use the dynamite, though this is best saved for blowing up blocks that conceal secret tunnels and piles of rubble that obstruct the path.

Nothing can be taken for granted on the trek through the temple. Get too close to some blocks and nasty spikes spring out: move too slowly along a platform and nasty stone heads spit spears: jump too late or too early over a chasm and you'll fall to the bottom of a spike-covered pit. Nine times out of ten you'll be killed by an entirely unforeseeable trap, but with progress further into the game you'll start to recognise the danger signs and learn to take evasive action where and when necessary.

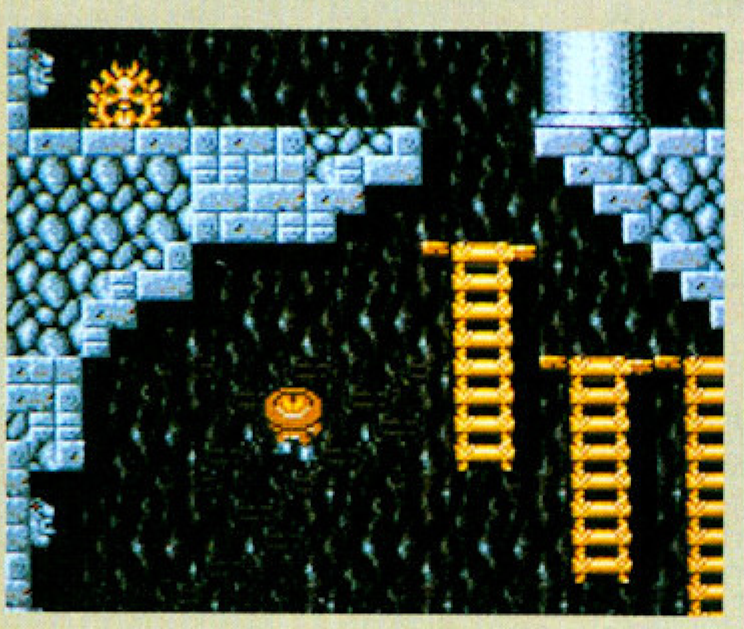
The temple is large, but with several restart points so you don't need to go all the way through it every time. Rick's next adventure is in an Egyptian pyramid where things are similar if slightly more puzzle-oriented. A final expedition takes Rick to an enemy fortress, which is very tricky to negotiate.

For an old-style platform game, *Rick D* is fun to play. The puzzles are tricky and the gameplay is very satisfying. With lots of trial and error and a bit of concentration you'll solve each puzzle eventually, and have lots of fun along the way.

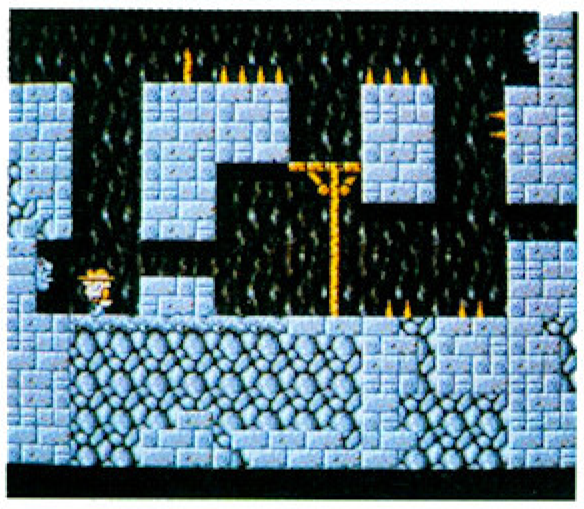
● ***Andy Smith***

GRAPHICS AND SOUND

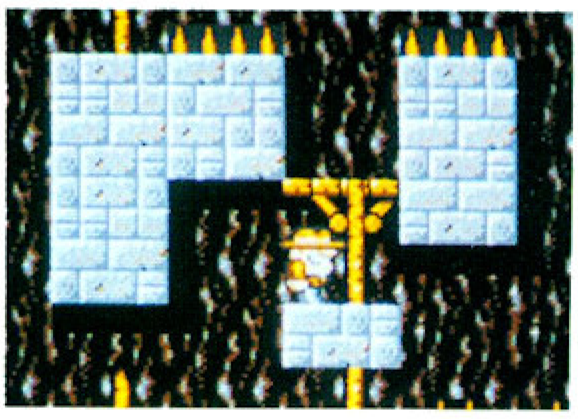
It's an old game style so don't expect stunning 3D: the backgrounds are all very nicely drawn, though, and the sprites are great. The animation is fine too and the sound effects are nice but nothing spectacular. A fun game that will take you a while to complete, but it's addictive enough to keep you trying.



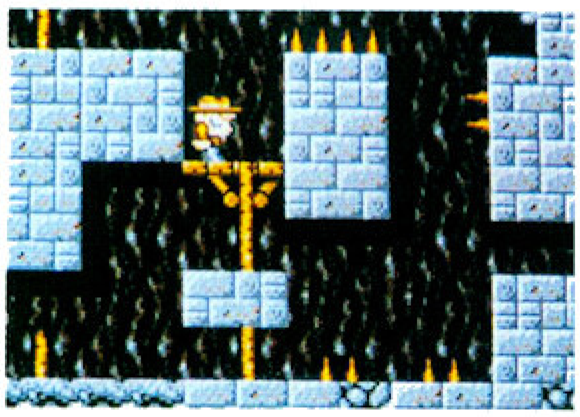
GRAPHICS	7
SOUND	5
INTELLECT	5
ADDICTION	7
OVERALL	89%



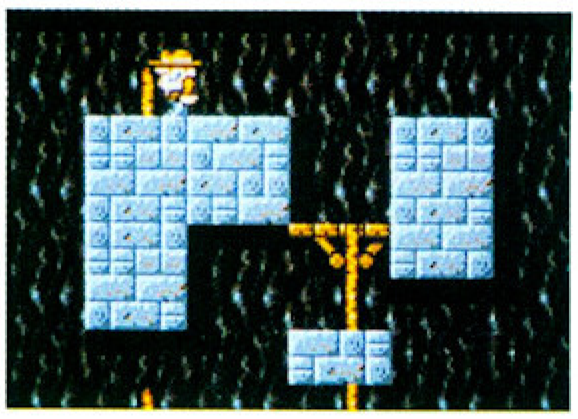
■ Trip the switch on the floor to release the secret moving block from the far wall...



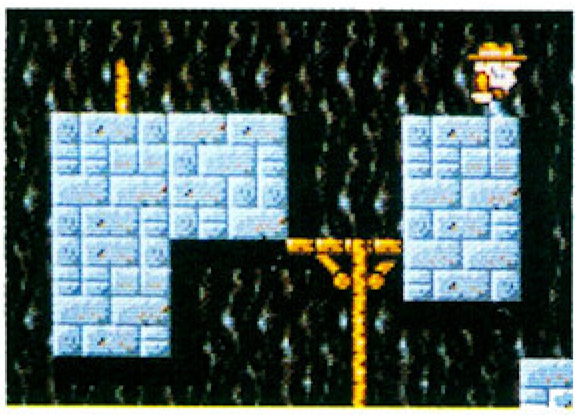
■ Then wait until the block moves to the centre of the screen before jumping onto it...



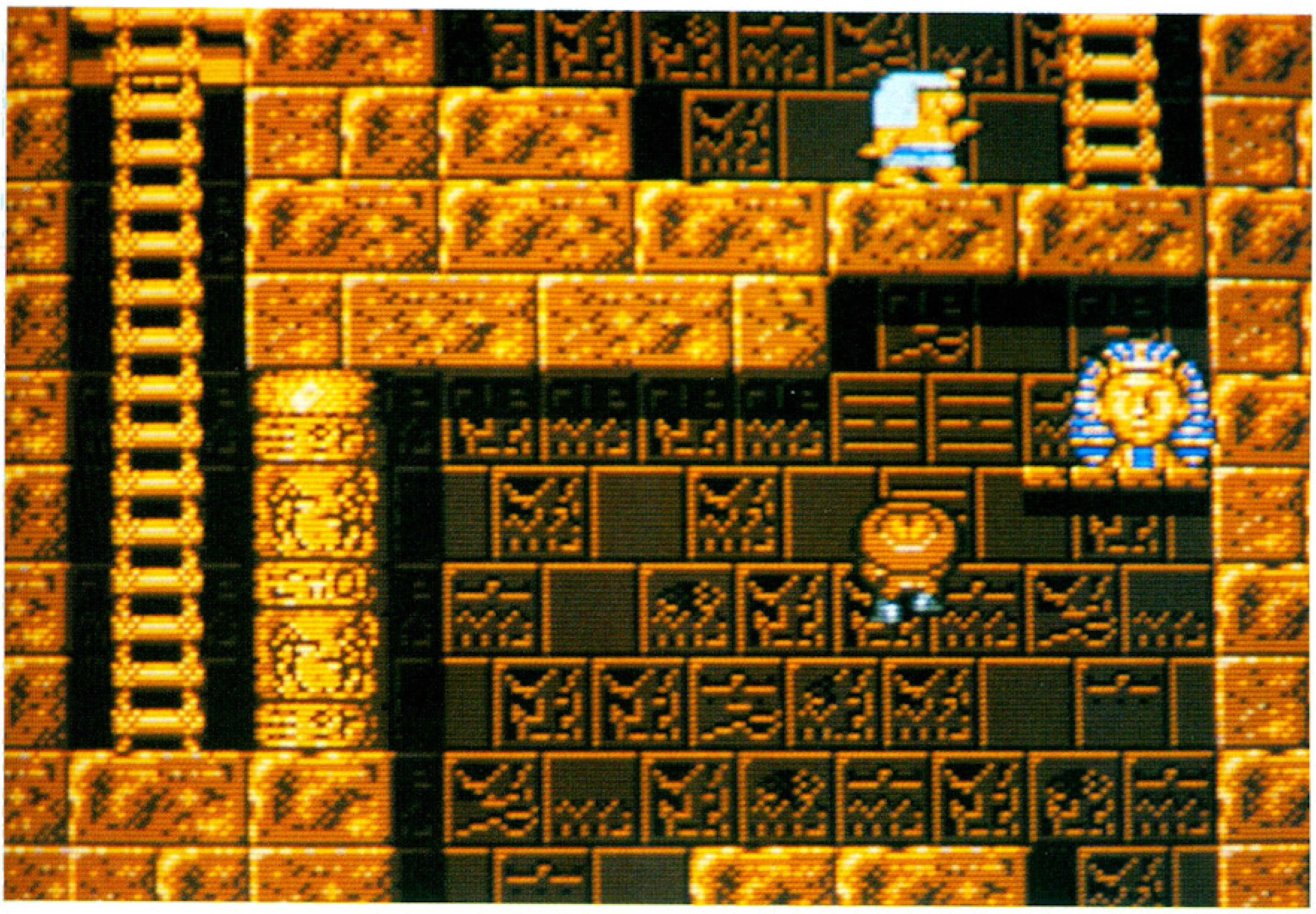
■ From the block, jump onto the platform to trip the switch that removes the spikes on the left...



■ Then jump up to the left and trip the switch that removes the spikes over on the right...



■ Jump to the right, drop on the block and crawl through the gap!



■ Left – Rick clambers around an Egyptian temple on Level Two.

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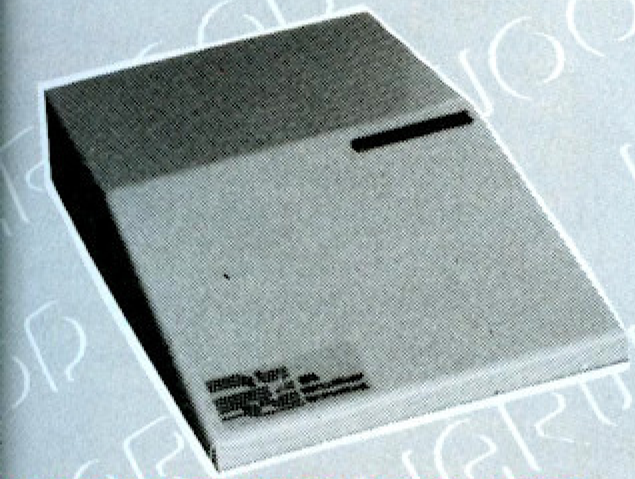
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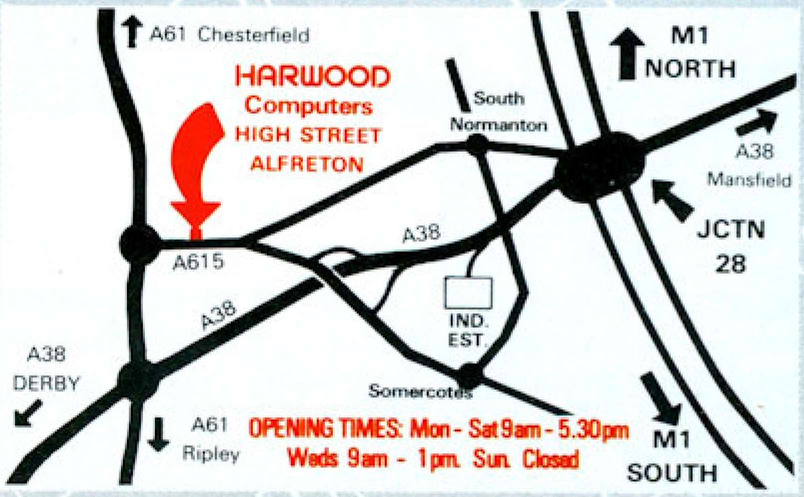
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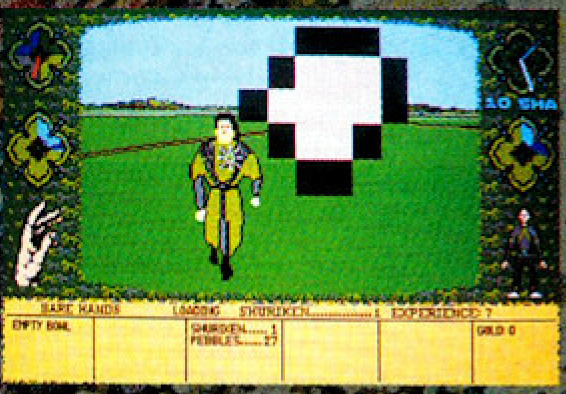
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SLEEPING

EMPIRE £24.99 Mouse, Joystick or Keyboard



■ The Hermit sends you on your first sub-quest. Scour the lands and you'll come across the map which you can then take back to the Hermit who'll give you some valuable information in exchange for it.



■ Of course you'll have to fight enemy agents along the way...



■ And here's the nasty fellow who's got the map. Time to fight...

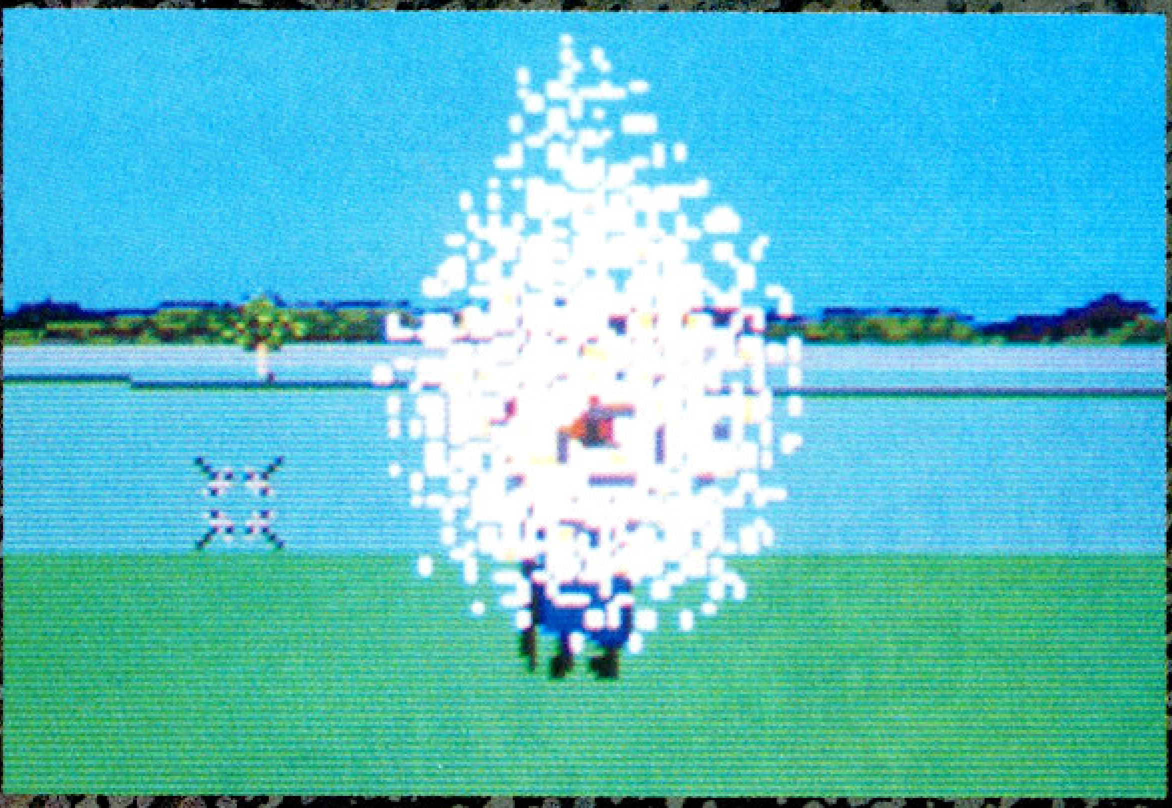
They're a troublesome bunch, these Archmages. The one that's presently controlling the once-peaceful lands of Tessera, certainly is. He's imposed all sorts of rules and regulations to make your average peasant's life a misery, and if things don't improve quickly it looks as if the whole kingdom is going to go down the pan.

Unless, of course, you can save the day. All you need to do is find and wake a sleeping god called N'Gnir, who is kipping somewhere in one of Tessera's eight kingdoms. Wake him up and he'll deliver us from evil and ensure life gets back to normal (at least until the next Archmage decides to upset the apple cart).

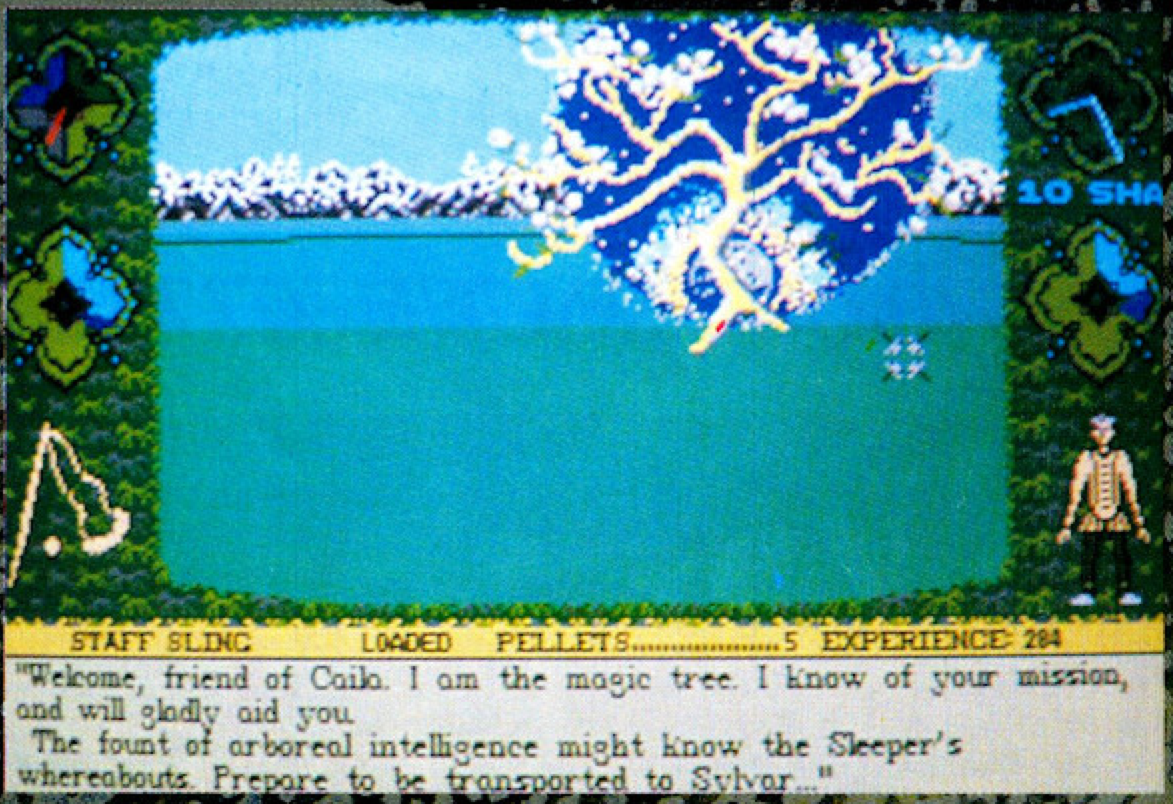
Unfortunately, you have no idea where N'Gnir is and your only clue is that a hermit to the north of your home (the start point of the game) may perhaps be able help you.

The game is a solid 3D presentation, in which you view all the action through your eyes as you move around the land by positioning the cursor in various parts of the screen (up to go forward, down to reverse and so on). Below the play screen is a text window that normally tells you what you're carrying and how much ammunition you have. When you come across a character, though, such as the hermit, lines of speech appear, giving you clues or asking you to help them and so on. Around the side of the play screen are various icons indicating the time of day, your stamina level and so on.

The majority of the people you come across though are bandits and agents working for the Archmage, and they have a nasty habit of lobbing things at you,



■ He's a tougher opponent, but you've managed to collect a staff sling and some pellets so a with few careful shots make sure he's history.



■ Take the map to the Hermit and he'll tell you of a magic tree. Visit the tree and you'll be transported to the next land and another quest.

GODS LIE

which causes you to lose vital stamina. The best solution? Lob things back at them. Piles of rocks (initially) can be found lying around as potential weapons, and you automatically pick up anything you walk over, including beefier weapons such as slings and crossbows. By destroying the nasty peeps you can also keep your ammo stocks up because they tend to leave behind piles of juicy throwing things when they die. Obviously all this scrapping takes a toll on your stamina, so you'll have to keep topping it up by finding apple trees, berries or the occasional carrot and mushroom patch which you can scrump to replenish your energy.

The eight kingdoms of Tessera are comprised of various sub-kingdoms, which you can move between (some are linked by secret passages that must be discovered) in order to solve a puzzle or help someone and so progress to the next. In fact, that's the way to play the game: find a person who needs your help, complete a task and receive a clue as to how to reach the next land. The Hermit, for example, needs a map: after wandering around for a bit, you'll come across a certain bandit who just happens to have one. Destroy the bandit, give the map to the hermit and he'll tell you how to get to the next kingdom: where you'll find a Prince who has lost his crown: and so the game progresses, until finally you get to wake N'Gnir.

Sleeping Gods Lie is a straightforward real-time adventure. It's fun to play and will take a while to complete (thankfully there's a game save option!), but it's not setting any standards and the number of bandits and monsters you have to kill tends to get somewhat annoying after a while. Still, it's well thought out and well worth a look at, especially if you like to solve classic adventuring puzzles. ● *Andy Smith*

GRAPHICS AND SOUND

The sound effects are more than a little limited and the animation is not so very hot. Most of the landscapes have little detail to them, so they can look rather bland at times. But on the plus side, everything moves quickly, and although the 3D is not the best ever seen it works sufficiently well.



GRAPHICS	7
SOUND	5
INTELLECT	6
ADDICTION	8
OVERALL	**80%**



FEDERA
FREE T

GREMLIN £29.95 Joystick and Keyboard

Infamous for its delayed and heavily-flawed incarnation on the ST, *Federation Of Free Traders* has, according to Gremlin, now been debugged and redesigned for the Amiga, taking note of the array of criticisms levelled at the game.

In the grand tradition of *Elite*, new recruits to FOFT attempt to make a fortune by skimming the spacelanes, trading and running missions for the Federation. Members are united by 'Galnet', a comms network through which they trade and take new orders.

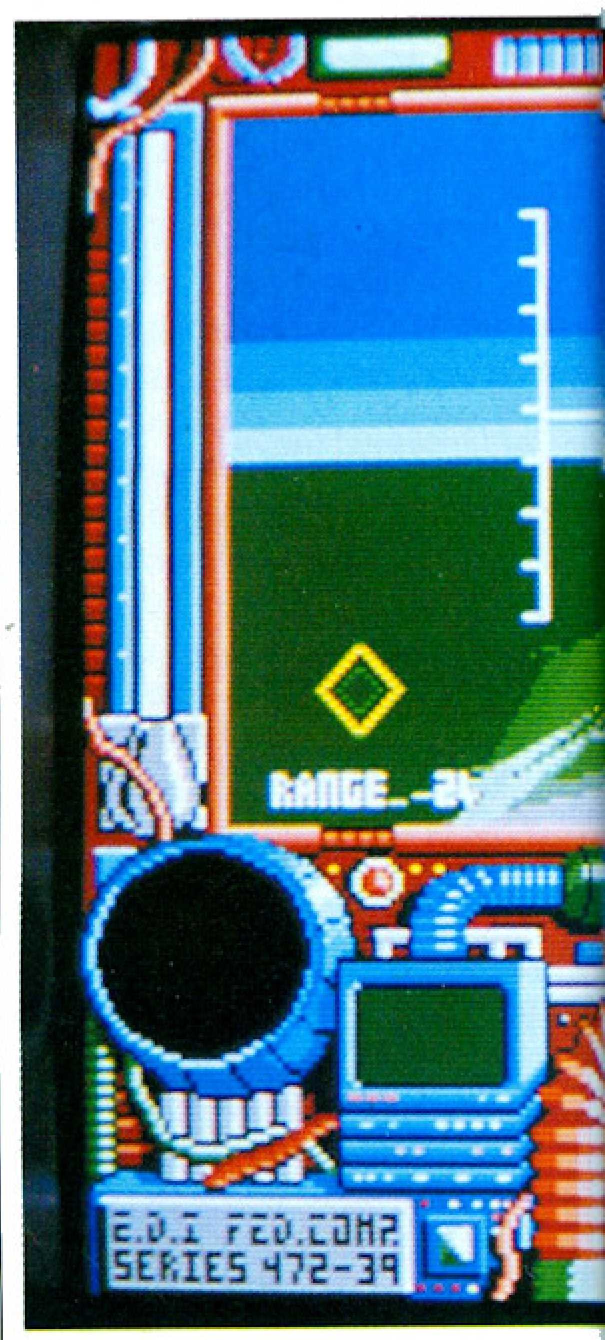
Missions are dealt out according to rank, the more prestigious and financially-rewarding jobs going to higher-ranking officers. As more missions are successfully completed, the player moves up the hierarchy, with the ultimate goal of making Admiral and Head of FOFT.

The scope of the game is vast, with a purported eight million planets to explore. Travel between planetary systems, each represented in one of the spectacular 3D galactic maps, is available via the ever-so-convenient Hyperspace, while short jumps speed you between planets.

It's during interplanetary jaunts that enemy ships are encountered, and the player's weapons come into play. However, over-sensitive controls conspire with rapid movement of enemy craft to make dogfighting tricky, if not downright frustrating.

Having neared the target planet, the player has the option of docking with a space station (the docking computer has a rather unnerving tendency to crash your precious ship without so much as an apology) or diving to the planet surface. At this point a pseudo *Virus* landscape appears, where you have to avoid flak from ground-based gun emplacements prior to landing at a friendly airstrip. Rolling green hills mark a welcome break from the inky black of space, but limited flight and combat controls detract from the impact of the experience: it doesn't take many flights before the whole process grows repetitive.

For anyone who is interested, the on-board computer terminal also supports its own CLI program-



ming language called SIMPLE, which allows basic programs to be written. Presumably this is included as light entertainment for all combat-weary programmers out there.

Elite, for those unfamiliar with its many pleasures, was structured so that every piece of equipment 'bought' was the product of much blasting and trading. For most of the game you felt that you were only making it by the skin of your teeth, and success was all the sweeter because of it.

Gremlin's effort has removed this by allowing the player to amass his fortune within the first half hour, simply by playing the market: buying low and selling high. In this way, the ship can be fully equipped before leaving the first space station and the need for any further trading (apart from the occasional binge to fill the coffers or to indulge in black marketeering) is negated.

FOFT's challenge, then, lies in the successful undertaking of its missions. Those doled out at cadet level are less than entertaining, and

TION OF ADERS





■ Main picture, top – Coming in to land on a *Virus*-esque planet surface. Above – In combat with an alien craft in the vicinity of another planet.

often confusing due to a scarcity of instructions. However, things liven up with progress through the ranks as you put your neck on the line.

Perseverance reaps its rewards but be prepared for a dull time until the later missions can be attempted. True to their word, Gremlin have improved *FOFT*, but it's still no *Elite*-beater. ● ***Steve Jarratt***

GRAPHICS	5
SOUND	2
INTELLECT	6
ADDICTION	7
OVERALL	69%

FIRE BRIGADE

PANTHER/MINDSCAPE £29.99 Mouse and/or Keyboard

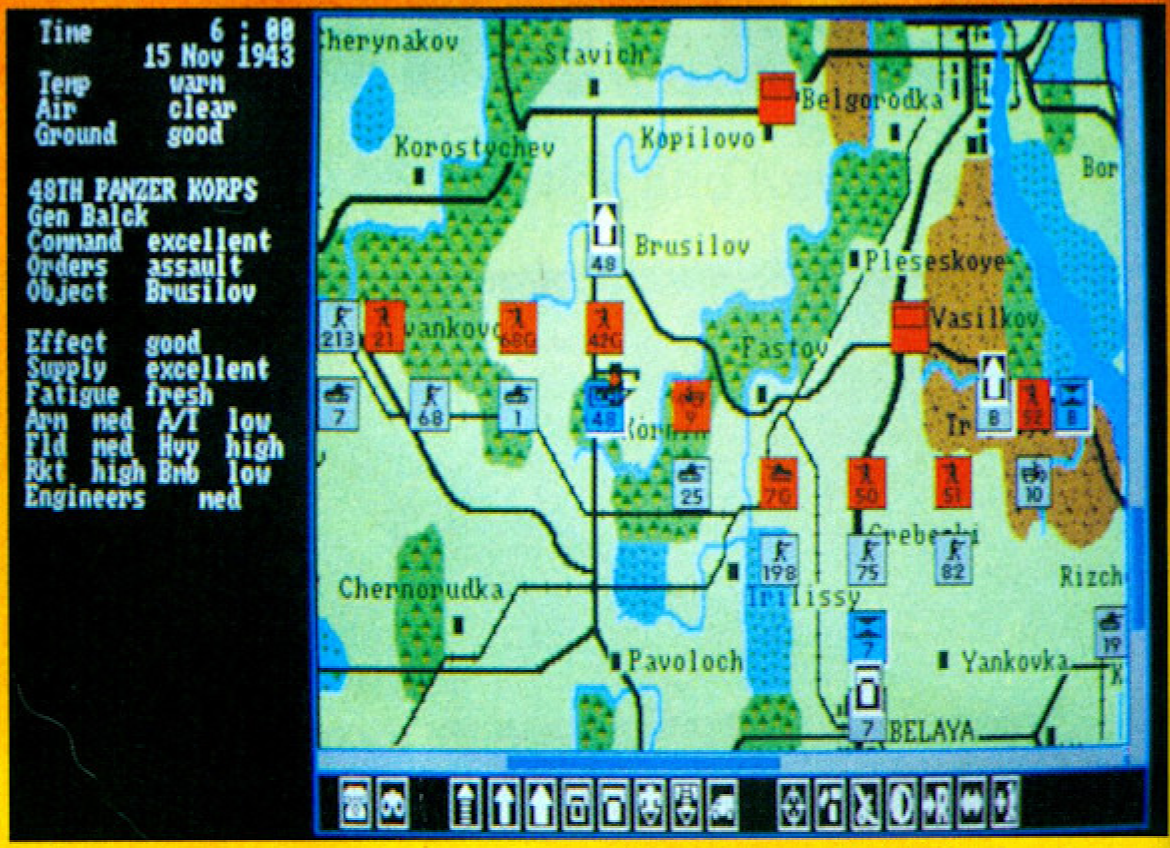
November 1943, and the Russian army continues to push the German forces back toward the Dneiper river. It's at the Dneiper that the Germans hope to pull themselves together in final preparation for the inevitable fierce Russian winter and the consequent continuing Russian offensive.

That's the state of play at the start of this wargame, running on 1Meg Amigas from Australian software house Panther. It's a one or two player game, so the first thing is to decide whether you'd like to play the computer (in which case you can select a skill level to suit) or a fellow human being. Against a friend you can't alter the skill level, but you can choose to play remote via a modem or cable.

Once you've decided who will command which army and have chosen to play the basic or advanced game (you have more options and greater control over your forces in the advanced game) it's time to select a scenario.

Each scenario will last a set number of turns, and each turn represents one day. The first is the full campaign, lasting 50 turns from November 3rd 1943 until December 23rd, which starts at a point where the Russians have the upper hand and the Germans are struggling to hold ground. The second scenario lasts 38 turns, beginning on November 15th with the Germans in a better position to counter-attack thanks to the arrival of much-needed reinforcements. The third scenario lasts 18 turns from December 5th, when the Germans are ready to launch yet another counter-attack, now aided by the famous 48 Panzer Korps.

For each scenario the game structure is the same. Using menus and icons selected using either the mouse or keyboard, orders are issued to your forces' HQ units who then pass the orders on to their subordinate units. When you've issued orders (telling a unit to head for a certain objective, for example) and assigned supplies or airborne support to the units that need them most, the Movement phase begins.



■ Decide what orders to issue then click on the unit's HQ to implement them. Here the 48 Panzer has been ordered to assault Brusilov, but those Russian infantry and motorised units are going to prove tough.

Combat is resolved instantaneously during the Movement phase, which continues until 6am the next day when the Orders phase starts again. Victory is awarded to the player who has acquired the most victory points during the game. These are awarded for capturing various strategic and tactical objectives such as railway junctions and towns.

Fire Brigade is blessed with an extremely user-friendly game system which, combined with the helpful manual, allows even a complete novice to get into the game easily. If you enjoy wargames you'll find *Fire Brigade* very satisfying, but even if you don't already, it's a good place to start. ● ***Andy Smith***

GRAPHICS AND SOUND



Not much you can say about a wargame's graphics: the icons are fine and everything is clear and well detailed. Don't get too excited about the sound either: there is none. It may not be terrific-looking, but it plays extremely well.

GRAPHICS	5
SOUND	N/A
INTELLECT	4
ADDICTION	7
OVERALL	88%

THE CHAMP

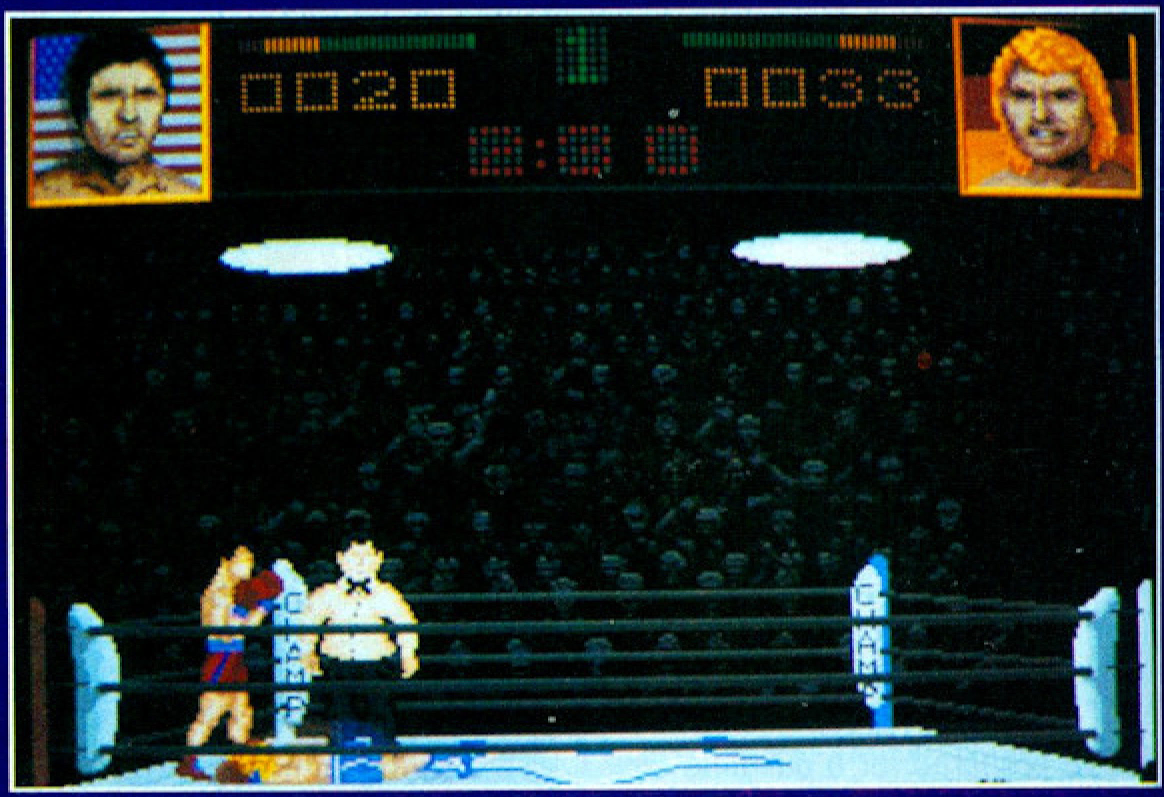
LINEL £24.95 joystick

This one or two player boxing game, endorsed by the World Boxing Council, pits the player against twelve opponents in an attempt to become the Champion of the World.

Before you get the chance to go for the title, you'll have to prove yourself by taking on lesser opponents, and to defeat them you'll have to undergo training in the gym.

There are three training routines: skipping, punch-bag and punch-ball. During the fight you have a total of eleven defensive and offensive moves, and the idea is to hit your opponent enough times to either knock him out (reduce his energy bar at the top of the screen to zero) or to score more points than him by the simple ruse of landing more hits.

Each opponent has a different style of boxing, so it takes a while to learn which moves each is more susceptible to, but even so it's not an impressive game. The gameplay is as poor as the animation, and it offers nothing new to the genre. ● ***Andy Smith***



■ The start of the first round and already you've put your opponent on the canvas. He's ahead on points, though, so don't get over-confident.

GRAPHICS 6 / SOUND 5 / INTELLECT 5 / ADDICTION 6 / OVERALL 48%


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■ Player One is on a teleport pad but he'll have to watch for the robot pointed out by a danger sign. Player Two has problems of his own with a robot guarding an energy replacement cell.

XYBOTS

TENGEN/DOMARK £24.95 Joystick or Keyboard

I'm Rock Hardy, me. This is me mate Ace Gunn, reet. And we're that 'ard, us. (Switch to government-approved, BBC middle-class accent.) OK, so they have stupid names, but they certainly need to be hard to take on the Xybots, vicious robots defending an underground complex.

The most obvious and interesting things are the 3D perspective and two player mode. The split screen gives both players an over-the-shoulder view of the characters they control. This means you can see some way down the corridors as they taper into the distance. The players can move around with total independence of one another and, because the corridors run in all directions, they are able to turn through 90 degrees to face any which way.

The complex is divided into levels, each of which has one or more exit doors to the next level. You must battle to the door, picking up objects along the way to make the going easier. Exploring the complexes is made much easier by the map at the top of the screen, flanked by status information on the two players. The map identifies everything using colour coding and symbols.

There are two weapons: a forward firing gun, and a zapper that freezes the robots for a time. However, nearly all the robots shoot back, damaging your shield: rapidly with the nastier robots.

The objects in the complex include coins, energy capsules, keys and extra weaponry. The extra weaponry doesn't last very long but gives you impressive firepower for a time. Regular energy capsules are essential in the long war of attrition. Keys open up areas of the complex containing useful items and level skips. Coins are also important at the end of the level when entering the shop.

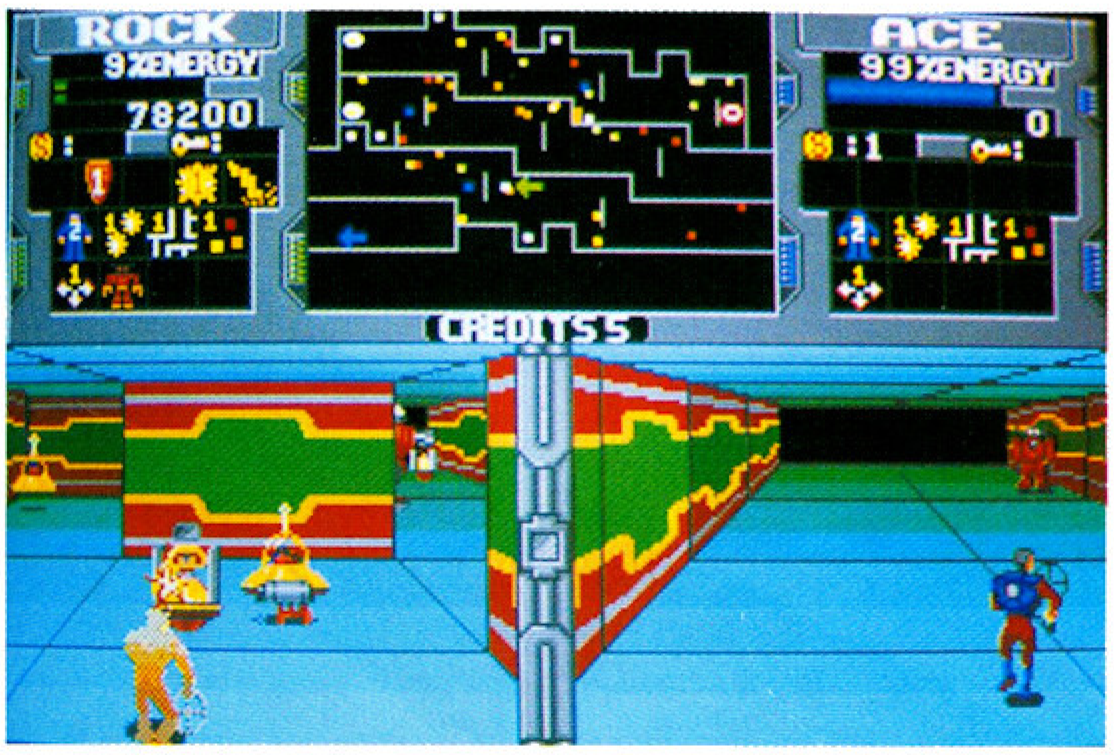
In the shop you can buy many supplies, such as increased shot power, better shielding, guard mappers, faster shots, keys and so on. These are vital for progressing through the levels because the opposition gets heavier and the maps get bigger.

If a player dies on a level it has to be restarted. Even worse is the confrontation with the Master Xybot which can send you back several levels. The Master Xybot appears every few levels and is no easy task to deal with.

The two player action in *Xybots* is amongst the best to be found anywhere: particularly because the two players can split up to clear out levels, so they do not always need to be in the same place. In the arcades it was not one of the greatest ever hits, but it translates very well indeed as a one or two player game.

● ***Bob Wade***

GRAPHICS	5
SOUND	4
INTELLECT	3
ADDICTION	8
OVERALL	**77%**



■ Disaster strikes Player One at left, as he crumples having lost all his energy. This is a bit of a shame, because the robot on the right is carrying a grey extra weapon which he could have collected. Note the level map showing the players as green and blue arrows and the status boxes showing energy levels and objects carried.

GRAPHICS AND SOUND

The graphics are best described as functional. They are garish, but this is not obtrusive. The perspective works very well and when you get up close to objects they also display a lot of detail. The fact that each of the split screens only takes up a quarter of the display is also of little importance because that is all you need. There is no music but the in-game explosions, warning noises and speech create a good atmosphere.



LICENCE TO KILL

DOMARK £19.99 Joystick or Keyboard

The world's most famous secret agent, James Bond, is once more appearing on a computer screen near you. *Licence to Kill*, the game, is based on the film starring newcomer Timothy Dalton and faithfully follows the movie's plot. It



■ Sanchez makes a break for it in his jeep. Smart shooting can slow him up, but the final confrontation is going to wait for later on...

puts you in Jimmy's shoes as he sets out on a personal vendetta against arch drug-smuggler and drowner of kittens, Sanchez. Ulp!

The game has six distinct parts, involving all manner of violence and mayhem, and arranged into three main sections. The first part requires you to pilot a helicopter along a vertically-scrolling roadway, trying to blast Sanchez who's making an escape in his jeep. But naturally he's firing back, so you must gain and lose height to avoid not only his shots, but also other shots emanating from the occasional ground installation.

At the end of the stage Bond must jump from his chopper and fight Sanchez's henchmen on foot. Blasting away on the run won't help much in this part, because you can't aim effectively on the move. Instead, a firing sight appears when you hold down the fire button and by moving left or right you can adjust the aim. Then when you start moving and press fire, the gun fires in the direction you last aimed.

At the top of this vertically-scrolling piece Felix is waiting in the helicopter, and to complete the first section Bond must jump in and spin off in pursuit of Sanchez, who is making a dash for Cuba. Bond lowers himself on a rope from the 'copter to attach a tow-rope to the tail of the arch-fiend's plane: tricky, tricky.

The second main section of the game sees Bond underwater for



GRAPHICS AND SOUND

The title music isn't brilliant, but neither is it bad, and the effects throughout are fine. Nice backgrounds and good, smooth animation help to make the game playable. A not half bad interpretation of the film, but on the other hand, not the world's best game.

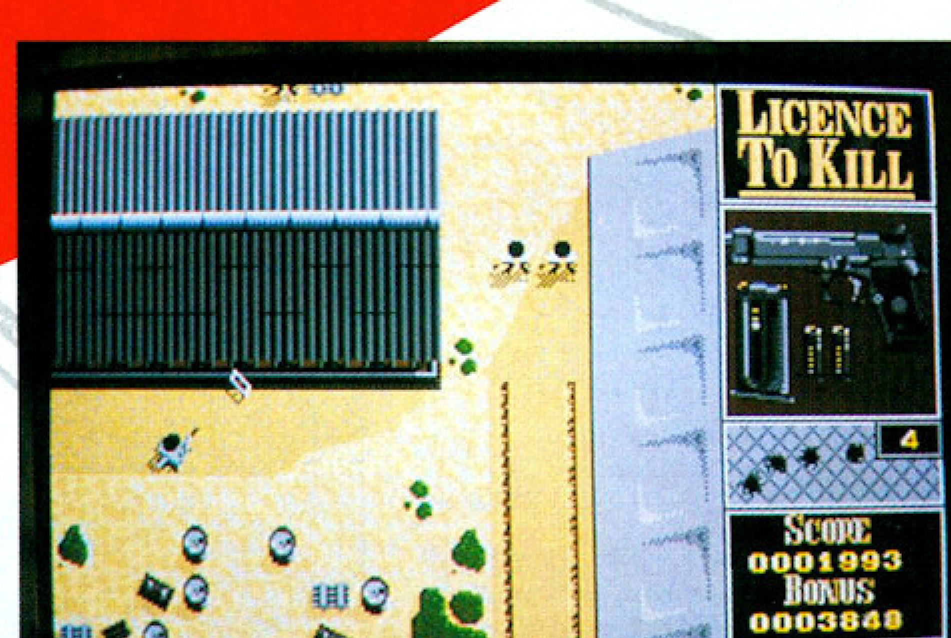
the first part armed only with a knife, dodging boats that fire at him and contending with divers. Manage to survive until the plane arrives and it's time for a spot of barefoot waterskiing as he harpoons the seaplane's pontoons and attempts to haul himself aboard to take control, all the time avoiding high-speed catamarans that have been sent with strict orders to stop him.

Survive and it's straight into the third and final section of the game, where Sanchez is trying to make a run for it with the drugs (a dash with the stash?) hidden inside petrol tankers, after you thoughtlessly destroyed his drug factory. Destroy all the tankers successfully and you're left with Sanchez (who is armed with Stinger missiles for protection) in the last truck. And there you go, and why not indeed?

Licence to Kill has been nicely done, and that in a sense is what it's there for. Some sections are very playable, but though it's fun for a while, it is not likely to keep you playing for months. Still, it does follow the plot of the film accurately and it's certainly tough and addictive enough to grab your attention for a good while. ● ***Andy Smith***

GRAPHICS	8
SOUND	7
INTELLECT	2
ADDICTION	7
OVERALL	71%





■ Make sure your aim is true first, because attempting to fire on the run will only fill your own vest full of holes...

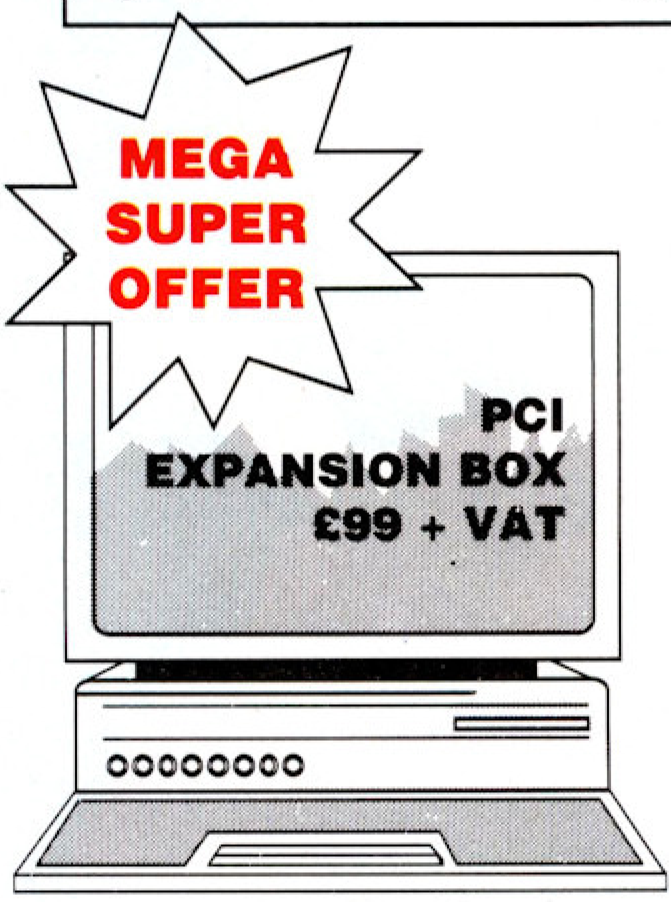

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GRAND PRIX CIRCUIT

ACCOLADE £24.95 Joystick

Ferrari, McLaren, Williams. Big names in the world of Formula One motor racing and deservedly so. Not many of us will ever have the chance to drive one of these examples of high-performance machinery: the closest we'll probably come is watching them as they hurtle round Brands Hatch or Silverstone. Unless you own an Amiga. Thanks to Accolade, of Test Drive fame, Amiga owners can now drive all these cars around up to eight Grand Prix circuits.

Your view of the track is from the car's cockpit as you thunder round at speeds of over 200 mph. Travelling that fast with a 960 hp V6 engine propelling you is not easy, so you are well advised to select the novice level for the first few attempts. In this mode the competitors treat you nicely, the gearbox is automatic, and you can't spin out or blow the engine up. Once you become more familiar with the game, you can up the reality level until you're changing gear yourself and running the risk of losing control or destroying the mechanicals through overwork.

The game allows you to either practice, take part in a single race or compete in a championship in which you race on each circuit in turn. Every race allows for one qualifying lap to determine grid position, after which you're straight into the competitive action. The length of each race is determined by the player, up to a max of 99 laps. During the race there's a small map of the entire circuit in the top left corner that shows your position on the track and where the other cars are, but in a long race your position will probably be affected by the need to make at least one pit stop to change all the tyres, or just those on one side.

The computer-controlled drivers all have different driving styles, and it doesn't take long to work out who not to overtake on corners. The cars also handle very differently: the McLaren, for example, is the fastest on the straight while the Ferrari has terrific cornering and acceleration. Once familiar with the cars, you can choose which make of car best suits your driving style: but remember, you can't switch teams halfway through a season.

Grand Prix Circuit is a good driving game. One criticism is that the graphics don't give as great an impression of speed as some games, but the cars handle well and the various kinds of cars and circuits you can choose add some lasting interest. ● ***Andy Smith***



■ After the qualifying lap, you're in a poor grid position. Still, races have been won from the back before. But not today: accelerating too fast has sent you into another car and dashed your hopes of winning.

GRAPHICS AND SOUND



Nicely animated, but a bit of extra speed would have helped. The sound effects are just like the ones from *Test Drive* (surprise, surprise), but are fine for the game. Mouse control would have been better, because the joystick seems awkward until you get used to it. Once you do, you'll find it enjoyable and challenging, especially at pro level.

GRAPHICS	7
SOUND	6
INTELLECT	8
ADDICTION	7
OVERALL	78%

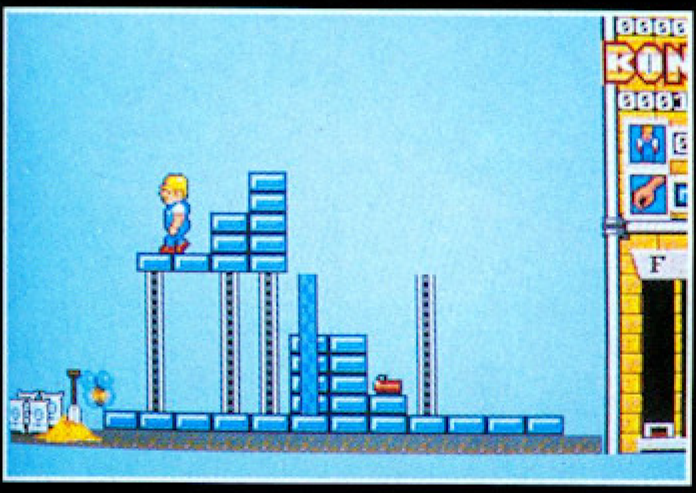
HIGH STEEL

SCREEN 7 £19.99 Joystick or Keyboard

Gremlins have infested a building site and it's your job to keep them skyscrapers going up and sort those Gremlins out. Viewing your character side-on in 2D, you move round the site picking up and then placing vertical girders and planting horizontal blocks on top. At least five consecutive blocks and two vertical girders make up a floor and as you progress through the game the number of floors you are required to build increases.

All the equipment is delivered by a crane from the top of the screen, including your sandwiches and Thermos flasks which you need to pick up to retain your energy. Then there are the Gremlins: the first few you meet simply fall out of the sky and are relatively harmless unless they happen to land on yer 'ed. Later in the game, the Gremlins start to eat the floor-blocks and some just stand around waiting for you to bump into them, removing one of your lives. To counter some of the Gremlins, you can lob spanners at them, but this doesn't work for all Gremlins: some simply deflect the spanners, knocking you out.

High Steel is a disappointing start for Screen 7. It's all nicely done but the actual concept and gameplay is like something from five years ago when the Spectrum was still a fashionable machine. ● ***Andy Smith***



■ There's an energy-giving Thermos flask available at the bottom of the screen, but that wibbly Gremlin could get in your way.

GRAPHICS 5 / SOUND 4 / INTELLECT 2 / ADDICTION 5 / OVERALL 39%

PHOBIA

IMAGE WORKS £24.99 Joystick or Keyboard

A Galactic President's lot is not a happy one at the best of times, but when your daughter goes and gets herself kidnapped by the evil Lord Phobos, Master of Fear, it can ruin your whole day. Still, there must be somebody out there brave, courageous and foolish enough to make a rescue attempt. No?

Erm... all right, you'll do. Lord Phoby has stashed his captive on the Sun and, because he's a smart chappie, he's realised that a rescue attempt will be made and has designed a series of worlds that must be passed through by any prospective hero before he gains access to the Sun. These worlds are slightly out of the ordinary in that every one is fashioned on common human phobias, from spiders and other creepy crawlies to flying insects and dentists.

Guess what? It's a shoot-em-up where all the nasties are really nasty. Not only must you struggle through the planets and collect nine shields that allow protection from the Sun's heat, but Lord Phobos has sent out his Sun Troops who try to cut you off by building Light Barriers between worlds that will destroy any ships passing through. The only way to counter this is to go to a moon round a planet and pick up a drone which you can sacrifice in a Light Barrier: unfortunately, not all the moons are accessible, so you'll have to plan your route carefully. Suppose you do pick up a drone and then go to the planet proper, you'll find that by shooting the various aliens and ground installations they leave behind pods which increase your fire power when collected: so your drone can shoot too, which makes things a whole lot easier.



■ Make sure you pick up a drone to offer as a sacrifice before trying to go through a Light Barrier.



■ Pick up those blue pods in order to increase your firepower.

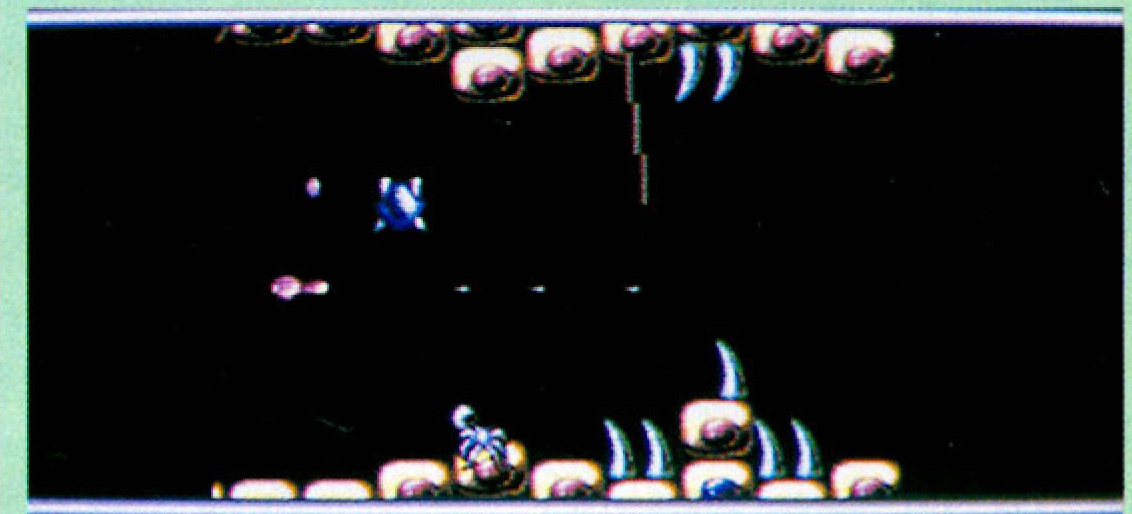
As you fly along the horizontally-scrolling planets, you'll notice small, round Key Generators which need to be destroyed as you progress, because they power a shield at the end of each system which protects the world's end-of-level guardian.

Shoot-em-ups don't come much tougher than *Phobia*, and you'll be thankful it has a two-player option. But it's just a shoot-em-up and, though it's as good as most and despite a few nice touches, is not one of the best. ● ***Andy Smith***

GRAPHICS	7
SOUND	5
INTELLECT	2
ADDICTION	7
OVERALL	72%

GRAPHICS AND SOUND

Some nice Copper Listing (thanks Tech Ed, for the enlightenment) and other effects including the novel screen mode switch between Hi and Lo Res are all very clever, though the sound effects leave a little to be desired. Nicely done but nothing spectacular once the novelty of the aliens has worn off.



BASKETBALL

MINDSCAPE £24.99 Joystick or Keyboard

Sports management games have always had a small but dedicated following and fans of the genre will soon be able to try their hand at this basketball sim/management game from US outfit Sport Time.

One or two players take part in the league, which is made up of two conferences (East and West) of two divisions. Your team(s) start at the bottom of their respective divisions and the general idea is to get them to the top. Loads of options are included: to trade players, to send them off to training camps, to recruit new ones and so on. Plus heaps of statistics to keep juggling with. During each game you also get the chance to choose which plays to make, if you so desire.

Everything a basketball sim or management game should have is included, the only shame being the actual matches where the gameplay lets things down somewhat. Still, regard it as more of a management than an action game and you won't be disappointed. ● ***Andy Smith***



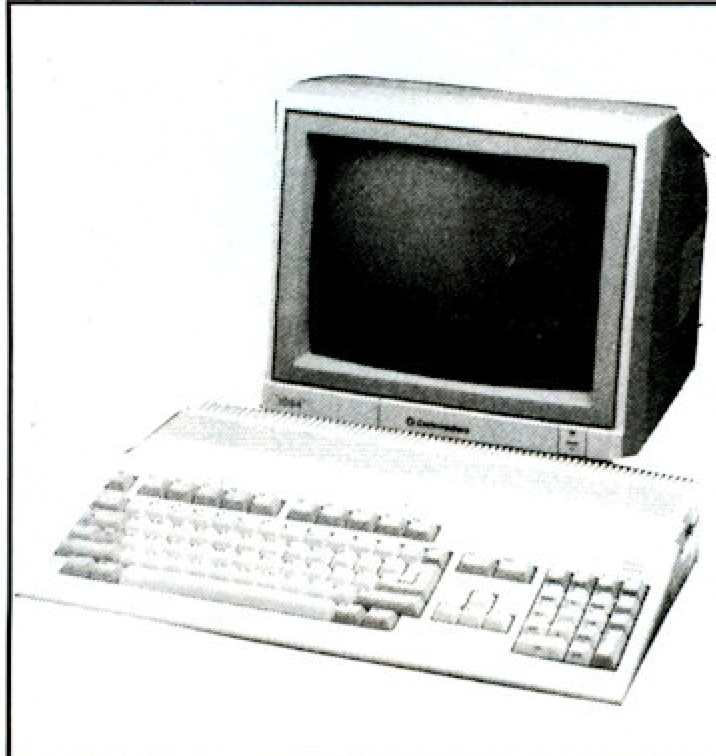
■ The start of the first quarter and already you're three points down. Still, if Rice makes a quick pass out you could be on for a fast break.

GRAPHICS 6 / SOUND 5 / INTELLECT 4 / ADDICTION 6 / OVERALL 65%



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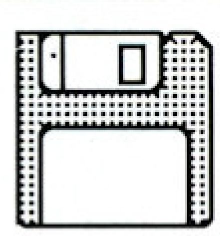
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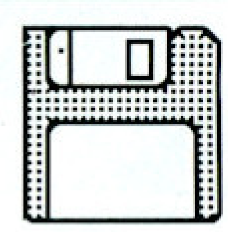
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INDIANA JONES AND THE LAST CRUSADE

US GOLD £19.99 Joystick

Bullwhips and hats are back in vogue as Indiana Jones returns to the small screen in yet another adventure, this time based on his latest big-screen escapade, The Last Crusade.

In the film, Indy (the part-time mild-mannered college lecturer) is just about to take things easy after a hectic adventure trying to get hold of The Cross of Coronado, which belongs in a museum. Then startling news comes to him that his father has gone missing while searching for the legendary Holy Grail. So, Indy must go find his dad, and the Grail too if he has time.

The game starts with Indy's first encounter with The Cross of Coronado, when he was a boy. Playing the part of the young Indy, you must traverse a large cavern and hopefully retrieve the cross before exiting. Essentially, it's a platform and ropes game: you walk along the platforms, climb the ropes (jumping from one to another on occasion) and doing your best to avoid the vicious knife-throwing and gun-toting, bullet-shooting baddies.

Initially, you have only a left hook to keep you out of danger, but you can pick up a bullwhip, which gives you a maximum of five lashes so use it sparingly. There's no time limit as such, but the torch you're using gradually fades so unless you manage to find another one, you'll end up trying to negotiate deadly jumps in near darkness.

The next stage sees you trying to escape with the cross across a circus train (relevant, if you've seen the film!) then for the rest of the game you're the fully-grown-up Indy: at which point you come across them nasty, nasty Nazis. There's a dash around the castle where Indy's dad is being held before more platforms and jumping around inside a Zeppelin. For the final task Indy has to jump his way along a tiled pathway, each tile inscribed with a letter. Jump on the right letters and he can progress, jump on the wrong one and you lose a life.

This is definitely the best Indy Jones game. The gameplay is old hat (groan) and is terribly frustrating at times, but if you like the platforms and ladders style of game then you'll find it enjoyable. As a tie-in to the film it works very well, but it stands up as a game in its own right too. ● ***Indiandy Smith***



■ The boy Indy makes a brave leap for the rope. Grab hold and he'll work his way, jumping from rope to rope, to safety on the other side.



■ The boy Indy learns that treasure hunters have found The Cross of Coronado – which belongs in a museum – and makes a grab for it.



■ In the cavern on Level One. Collect the whip and then take on the baddies from a distance.

GRAPHICS AND SOUND

The title music is a disappointment, but the sound effects are good: shame there are too few of them. The graphics are good, backgrounds are well drawn and the animation is adequate and adds plenty of atmosphere. Not the world's greatest game, but plenty of fun and doubly enjoyable if you liked the film.



GRAPHICS	7
SOUND	6
INTELLECT	4
ADDICTION	7
OVERALL	77%

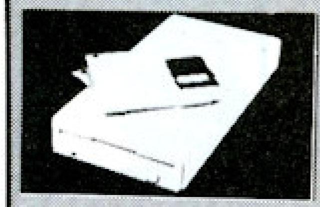
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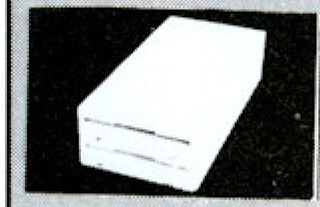
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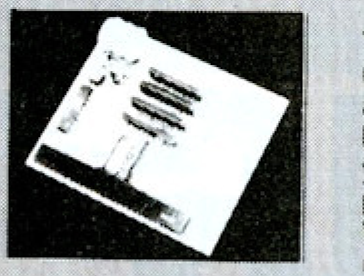
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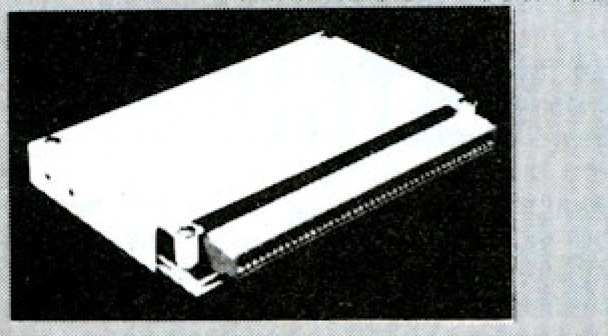


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Hard disk Backup Program available. Features: Speeds of up to 1MB per minute, Backup Disks have the same directory structure and file attributes of the original files and can be used normally, up to four disks may be pre-loaded at a time, multitasking.... the list goes on. Highly Recommended by M.A.S.T for Tiny Tiger and Quality Hard Disk Drives.

STILL AVAILABLE..."MY PAINT" - The ideal painting package for children of all ages. **ONLY £24.99 inc.** "B.A.D" - The Ultimate Disk Optimizer. **ONLY £27.50** inc . "SONIX" - Music Composition and Instrument Synthesis. **ONLY £24.99 inc.** Mono A500 Sound Digitisers complete with software. **ONLY £22.50** inc. TRFLIGHT FIIGHT - The pilot's Joystick Yoke for FSII and Falcon Enhancer Pack **ONLY £19.99** inc. NEW FSII SCENERY DISK #9. **ONLY £19.99** inc.
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Just in from the USA the latest Fish disks - we are now up to 230! - the latest 8 make up this value pack. Like to know more?
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PD UPDATE

After last month's 'Top Ten special', PD Update moves up into top gear. JASON HOLBORN takes a look at the very best in PD software and, in particular this month, the finest demos.

MIDI UTILS
FISH DISK 154

Who says the Amiga is starved of quality Public Domain MIDI software? Not so, matey! Look hard and you can find an absolute feast of useful utilities to help with your music making.

The *MIDI Utils* disk is a collection of small programs based around the *midi.library* from Fish Disk 101 and MicroSmith's *arp.library* which can be found packaged with most serious software these days (if you haven't got it, then it's available on Fish Disk 123). As a result, to use these programs you'll need to invest in a copy of at least Fish Disk number 101 and probably Fish Disk number 123 as well.

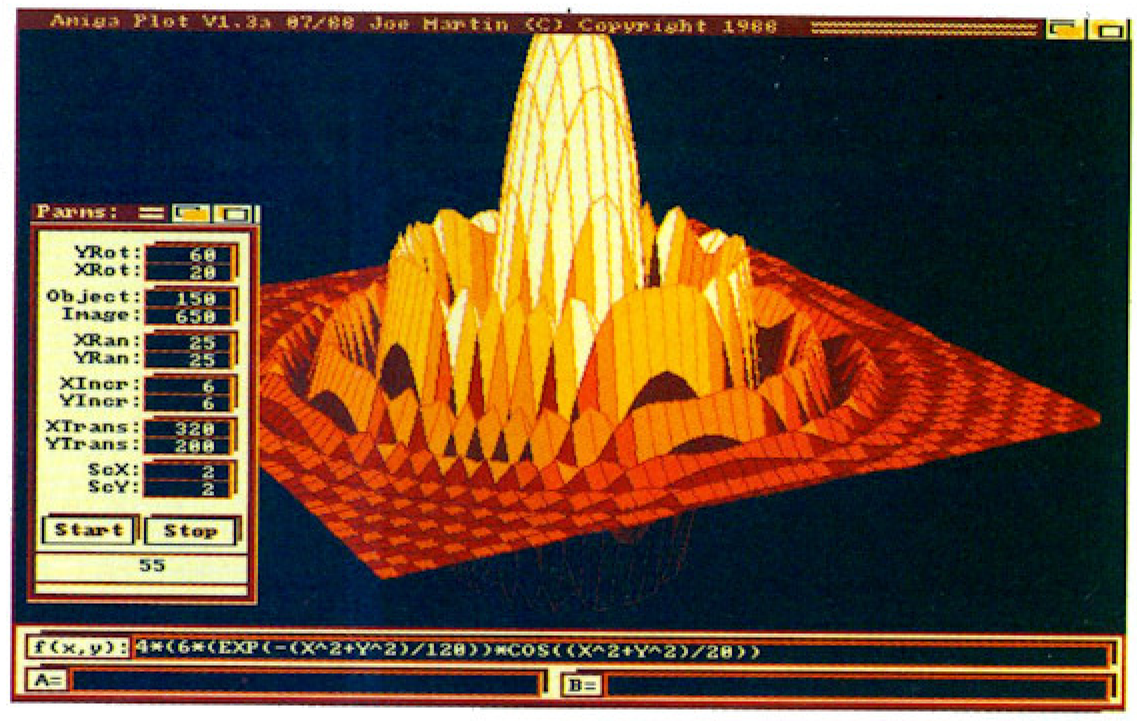
The *MIDI Utils* consist of seven programs which will carry out individual MIDI functions such as the storage of System Exclusive Data, MIDI echo generation, MIDI data filtering and a program change utility.

Because of the nature of the MIDI library used, all the programs can run concurrently, allowing some very impressive MIDI multi-tasking (try doing that on a PC, Mac or ST!) If you're an Amiga MIDI enthusiast, then you'll find the *MIDI Utils* a definite must.

MANDLEVROOM
FISH DISK 215

Mandlebrot generators have certainly come along way since the 'Type in an extremely complex number and then sit back and wait for a few days' type of program on machines such as the PC. The Amiga, too, has certainly had its fair share of Mandlebrot generators, but this latest release has one special feature that makes it stand out in a crowd... it's multi-tasking.

So what's so special about a program that multitasks? Almost every program that runs under AmigaDOS will multi-task and so it doesn't sound that amazing.



■ ***Plot:*** **maths was never this interesting when I was at school!**

MandleVroom, however, allows more than one Mandlebrot to be generated at the same time: you could in theory have as many as 100 Mandlebrots being generated simultaneously (although it would probably take 100 times as long!)

Most Mandlebrot generators, in fact most pieces of PD software, lack in the user interface department, but *MandleVroom* comes up tops here again. The whole program, down to every gadget, is professionally produced using those bas relief graphics that were so trendy a few years back. If you've already purchased a commercial Mandlebrot generator, then you'll kick yourself when you see MandleVroom. It is quite simply the best Mandlebrot generator on the Amiga (and quite a few other machines!)

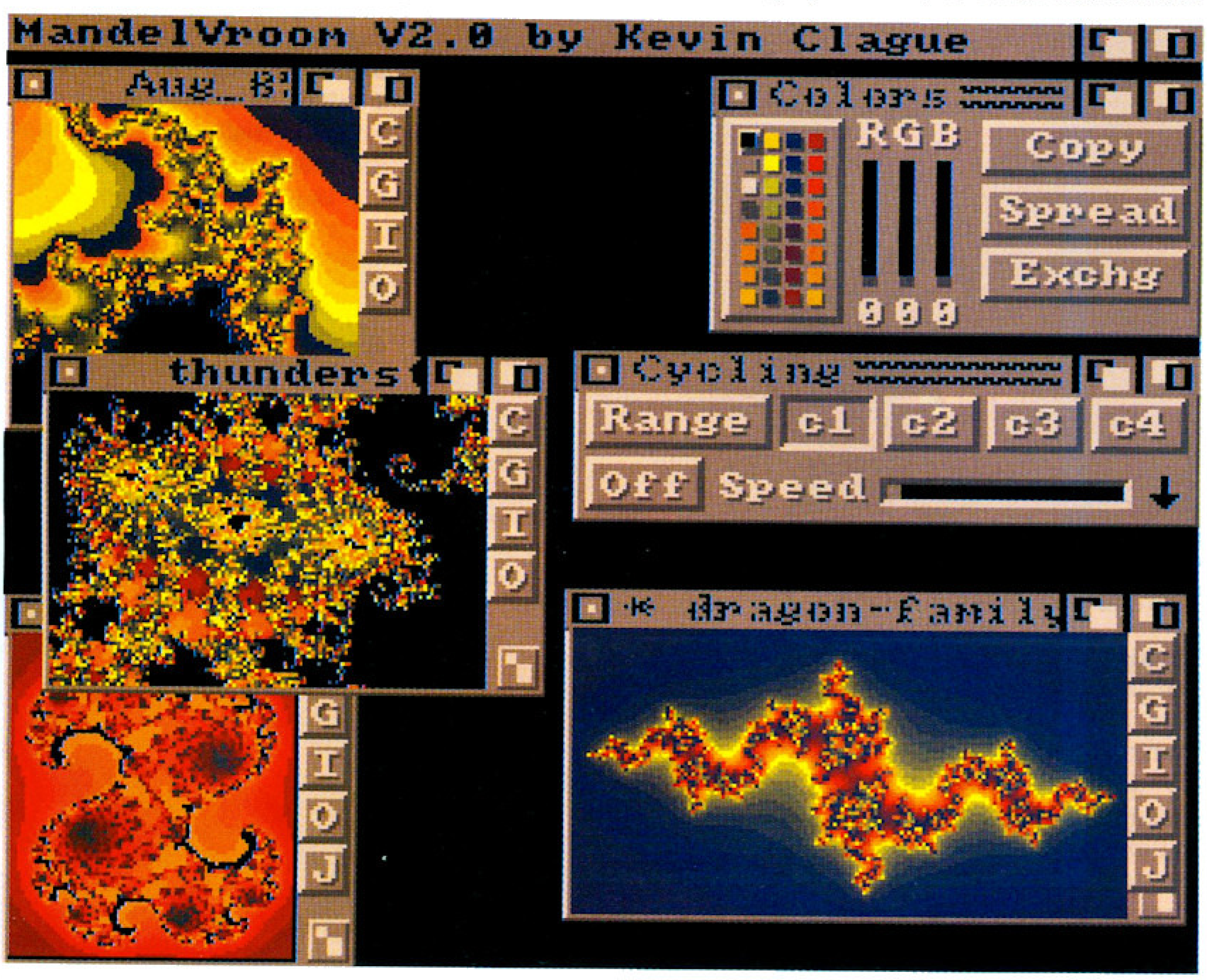
AMIGA PLOT
TBAG 26

Amiga Plot is a three-dimensional mathematical function plotter. Sounds boring, doesn't it? Well, surprisingly, it can be an awful lot of fun (as fun as mathematics possibly can be, that is!) The program takes a mathematical function and then calculates co-ordinates to be placed into an XYZ system. The results are then plotted using a three-dimensional solid model which looks a lot more interesting than the graphs most people were forced to draw in maths lessons at school.

Many aspects of the plot, such as rotation and aspect, can easily be redefined at any time and some startling results can be obtained.

BEST OF THE REST

With the arrival of the latest batch of Fish disks, there's loads of high-quality PD software that's new to these shores and is well worth ▸



■ ***MandleVroom*** **caught in the act of producing multitudes of little baby Mandlebrots.**

investigating. Programs worth checking out include:

CALC (Fish 210) – Do you need a scientific calculator that also includes function plot? How about a programmer's calculator and a standard calculator? Well matey, what you need is *Calc!*

TEACHER (Fish 204) – Another of those popular 'Screen hacks'. I'm not going to tell you what it does: suffice to say that it is one of the best available.

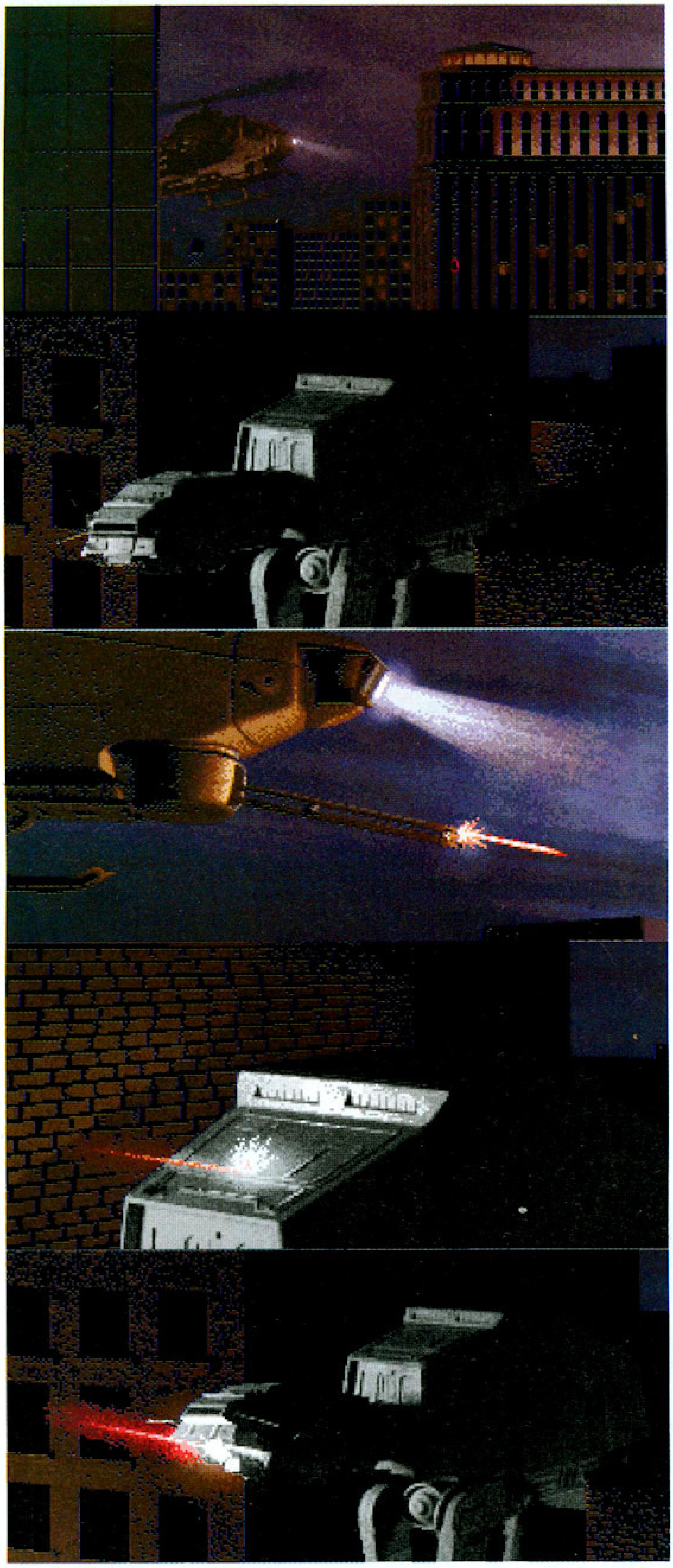
HAMCU (Fish 204) – Bored with your four-colour Workbench? How does a 4096-colour Workbench grab you?

TOP TEN PD
GTS Title

1 **Mega Games Pack 2, Disk**
6 **Air Warrior**
2 **Flafschbier Game**
3 **TBAG 31**
4 **Star Trek**
5 **3D Extravaganza**
6 **TBAG 28**
7 **TBYB 8: Dungeon Master Demo**
8 **Fish 196**
9 **Chet Solace Shareware Extravaganza**
10**SACC 23**

DEMOS CORNER

After leaving demo collectors a touch out in the cold last month, we thought it was about time we set the record straight with a closer look at a few of the demos currently doing well in our exclusive 17 Bit/*Amiga Format* Top Ten. All our demos were supplied by 17 Bit Software who can be contacted at their headquarters on 0924 366982.



■ **Brilliant use of digitised graphics and sampled sounds combine to make the Walker Demo II an Amiga all-time great.**

WALKER DEMO II
DISK 255

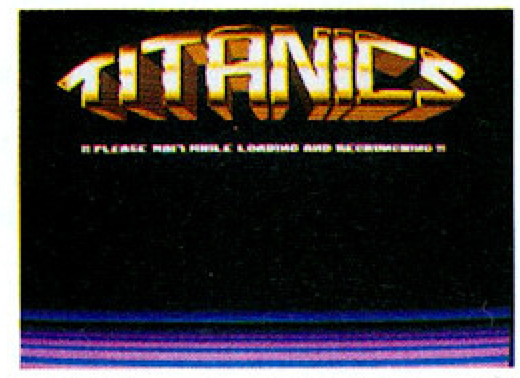
OK, it's an oldie: but it most certainly is a goodie, as its high position in the Top Ten confirms. The *Walker Demo II* is, not surprisingly, the follow-up to Bill Williams' highly-acclaimed *Walker Demo* that had many a jaw hitting the floor at last year's PC Show.

The current release of the demo is still only a 'taster' of the final product, which should be available later this year. The complete *Walker Demo II* will only run on an Amiga with at least 2 Meg of memory but thankfully, the demo version of the demo (!) will run quite happily on an Amiga with only a megabyte (once again, many apologies to all 512K users). The demo portrays an Imperial AT-AT Walker from the Star Wars movies under attack from a helicopter gunship in downtown Chicago (which is a far cry from the AT-AT's last assignment on the planet Hoth!) The most impressive aspect of the demo is the quality of special effects that all come together to make the *Walker Demo II* a classic alongside the likes of Eric Graham's *Juggler* demo.

TITANIC'S ACID HOUSE
DISK 412

Aciiieeed! What a lot of fun we had with this one! We're usually a fairly serious lot where work is concerned (Tell me about it! – Ed), but when the *Titanic's Acid House* disk arrived, the office was transformed into a massive Acid House party. There were Andy and myself, getting down to the Acid groove, while Damien controlled the lighting (ie, flicking the office light switch on and off!) and Bob complained about the racket.

The disk contains seven different arrangements in the popular Acid and House music styles. Although all the tunes were produced using the ubiquitous *Sound Tracker* utility, they show none of the traits that have made previous *Sound Tracker* songs so predictable. Even if you don't particularly like either House or Acid, these music demos are great fun and a vivid demonstration of the power of the Amiga's sound hardware. ■



■ **Although Acid House is now officially deemed 'un-hip' by those in the know, you can still have a lot of fun with this excellent demo.**

TOP TEN DEMOS
17Bit Disk Nos throughout

1 **(353) GhostWriter 1.2**
2 **(319) Intros/Demos Disk 2**
3 **(255) Walker Demo II** (1 Meg)
4 **(404) Supreme Sounds Music Disk**
5 **(423) Agatron Star Trek Animations**
6 **(412) Titanics Acid House**
7 **(262) Walker Demo 1** (1 Meg)
8 **(280) Intros/Demos Disk 1**
9 **(426) Mahoney Kaktus Music Disk**
10**(329) Star Trek Dry Dock** (1 Meg)

SUPPLIERS

The following companies are responsible for the distribution of Amiga Public Domain software in this country. For their full address, check the advertisements in this issue of *Amiga Format*, or give them a ring.

GEORGE THOMSON
077082 234
17 BIT SOFTWARE
0924 366982
SOFTVILLE PD
0705 266509
AMIGA PD LIBRARY
0742 588429
PURPLE PD
0279 757692
RAY BURT FROST
0703 785680
BLITSOFT PD
0908 663528

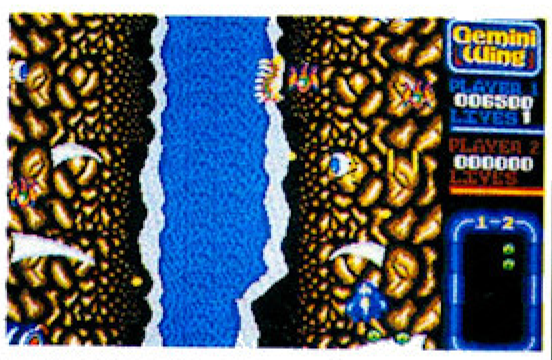
The Amiga Format coverdisk brings you the very best in public domain and reader software. JASON HOLBORN takes you on a guided tour of this month's collection of binary beauties.

DISK EXTRA

GEMINI WING

PROGRAM: BY VIRGIN/MASTERTRONIC
FILES: GEMINI WING, GEMINI.PRG

The gutter press certainly have a lot to answer for. Writing stories such as 'US President involved in hippy satanic rights acid house party scandal' was pretty tame compared to the headline that greeted readers of the Tuesday Space Holo-edition of that infamous rag, the SoonDay Spirit. After having to suffer



■ There are some strange creatures among the hordes of aliens.

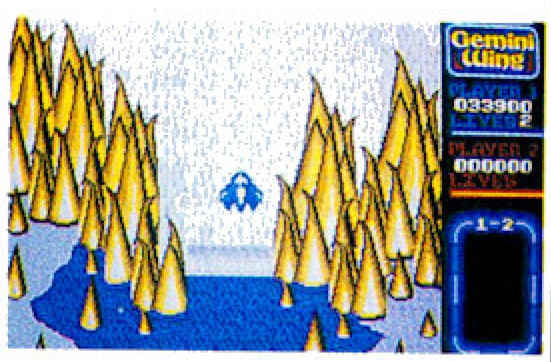
several centuries of 'green men invade Earth disguised as Shish Kebabs' headlines, aliens (and green men) throughout the universe started to get rather miffed about the whole affair.

This really is quite understandable: why should they have to suffer being constantly slandered by a pitiful little race of carbon-based lifeforms whose greatest achievement was the invention of a device that could wipe out its creators in a split second.

'DIE MUTANT ALIEN SCUM'. Those four words may seem to be just words to you and I, but they single-handedly triggered the most bloody galactic war ever to ravage the universe since Larry Grayson stopped hosting the Generation game. Every



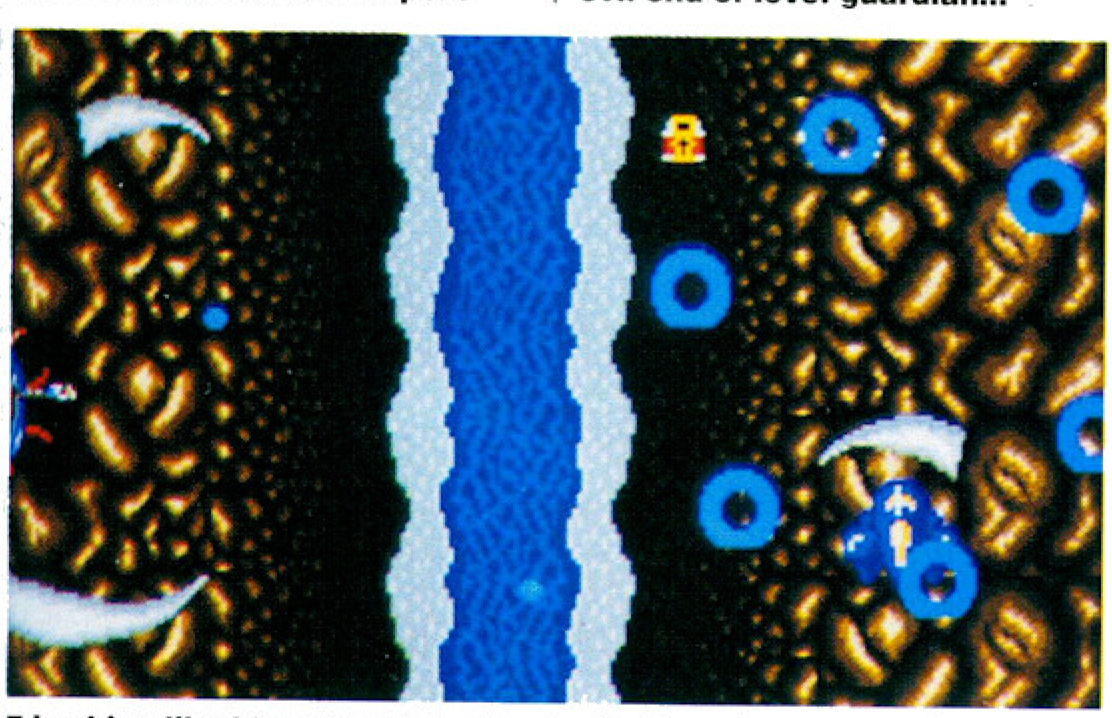
■ About to collect a canister to obtain an additional weapon.



■ Approaching the habitat of the evil end-of-level guardian...



■ And here he (she?) is, complete with a deadly load of balls.



■ Looking like blue liquorice allsorts, is the extra weapon in action.

civilised alien race throughout the galaxy set out to rid the universe of the Earth, mankind and particularly SoonDay Spirit journalists.

This, then, is where you come in. As you've probably already guessed, it's up to you to save the Earth from the hordes of aliens that want only one thing: to turn the Earth into one enormous potato floating in space. You must jump into your Gemini Wing class fighter, a top secret spacecraft designed specifically for just this kind of emergency, and thwart the aliens' plans ▶

GEMINI WING

It's time to strap yourself into your armchair, get out your joystick and prepare yourself for some of the hottest arcade action ever with our exclusive demo of Virgin/Mastertronic's latest arcade conversion.

ICON MEISTER

Let's face it, the 'official' icon editor as supplied by Commodore on all Workbench disks leaves a lot to be desired. *Icon Meister* is designed as a direct replacement that offers everything that *IconEd* ever did plus alot more besides.

SPREAD

Who ever said that the Amiga is no great shakes when it comes down to being serious? *Spread* is a powerful spreadsheet that'll help you keep your pounds and pennies firmly under control.

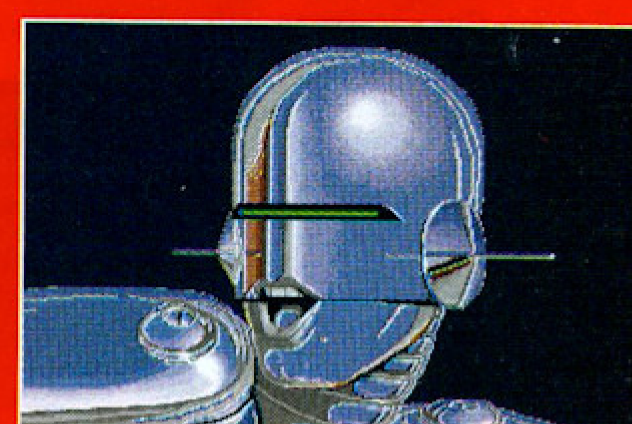
WORKBENCH HACKS

The fun and frivolity continues this month with another generous helping of the cute but useless Workbench screen hacks.

DROPCLOTH

Customise your Workbench screen with this handy little utility. With *DropCloth*, you can brighten up your Workbench with any standard 640x200, 4 colour IFF picture.

ART GALLERY



Prove yourself to be a true pixel professor by submitting your art work to the *Amiga Format* coverdisk art gallery. Once you've viewed any of the pictures on this month's disk, you can then load them into a paint package and modify them to your heart's content.

£800

UP FOR GRABS!

We must be insane! But it's true: we want to give you money! All you have to do is write a super-hot program for the Amiga and, if we decide to use it on the *Amiga Format* coverdisk, you could be living it up in style! See Page 68 for details.

ALWAYS MAKE A COPY OF YOUR DISK!

DISK NOT WORKING?
Then see page 68, fast!

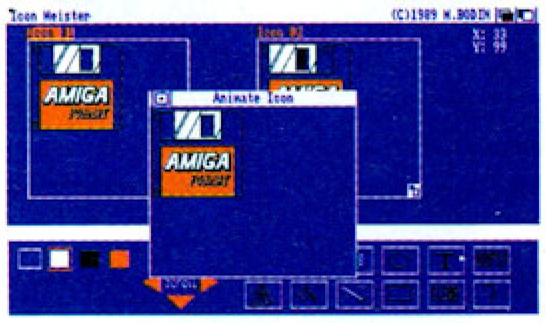
before the universe gains the first intergalactic baked spud in its history. Go for it!

Getting Going

You can load *Gemini Wing* by inserting your cover potato into the internal drive at the 'Insert Potato' prompt when your Commodore potato is first turned on. To play, you'll need a potato-shaped joystick plugged into the second control port. Game controls are the standard left, right, up, down and fire. To access extra weapons, simply keep the fire button depressed.



■ **With *Icon Meister*, you can edit both frames of an animated icon simultaneously.**



■ **Once you're happy with an icon, you can test it without having to exit the program.**

ICON MEISTER

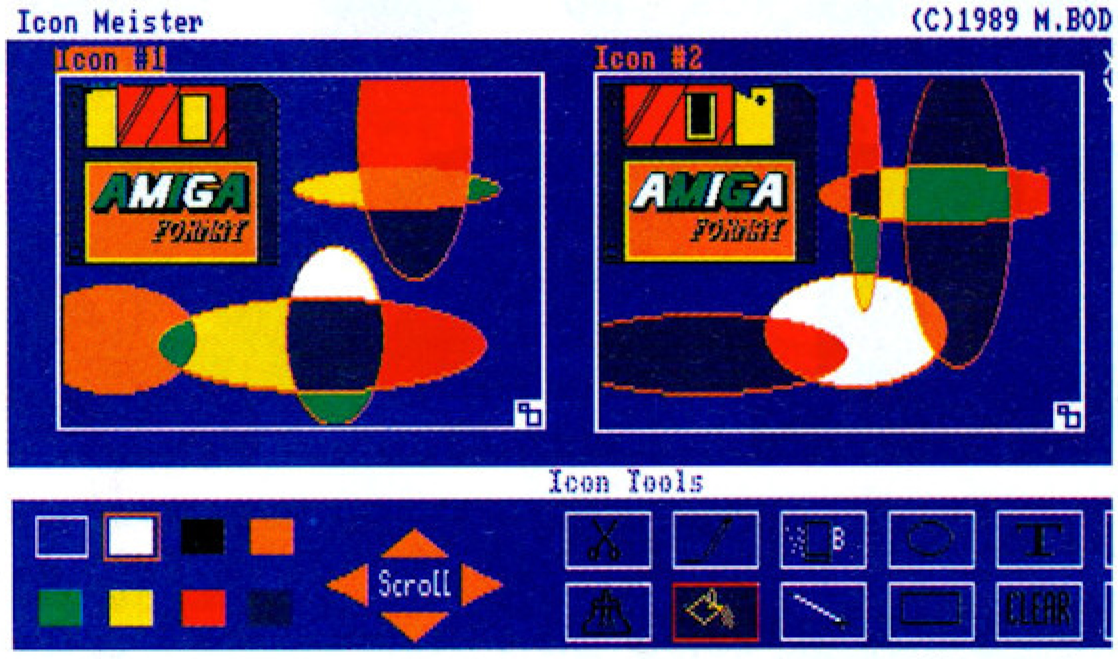
PROGRAM: PUBLIC DOMAIN
FILES: ICONMEISTER, ICONMEISTER.DOC

Creating custom icons for all those Amiga programs and their datafiles can be a difficult task unless you really know your stuff. Commodore's *Icon Editor*, which is provided on every Workbench disk certainly doesn't help: because it really is atrocious!

Icon Meister (which means, incidentally, 'Icon Master' in German), was designed as a direct replacement for Commodore's 'official' offering. As well as offering the same features as Icon Editor, Icon Meister has the following additional features:

EXTRA LARGE ICONS – Small icons are boring! As you've probably already noticed, we use extra large icons on our coverdisk which gives our disk a very individual look. With Icon Meister, you too can create extra-large icons.

ANIMATED ICONS – No longer will you have to use *IconEd* to produce two independent icons files and then join them together using the *MergeIcons* tool on your Extras disk. *Icon Meister* allows you to create animated icons from within the program.



■ **An extra four colours certainly do make an enormous difference!**

EXTRA COLOURS – Although your standard Workbench screen can only handle 4 colours (just wait for Workbench 1.4 though!), *Icon Meister* can create icons which can use up to 8 colours. Several software producers have produced enhanced Workbench programs (such as *Icon Paint* from Hi-Tension) which will allow you to take advantage of the 8 colour icons.

EXTENSIVE EDITING TOOLS – With *Icon Meister*, you can quickly and easily create or modify any aspect of an icon including its colour, size and icon type. All editing functions are accessed from either the pull-down menus or from onscreen icons(!)

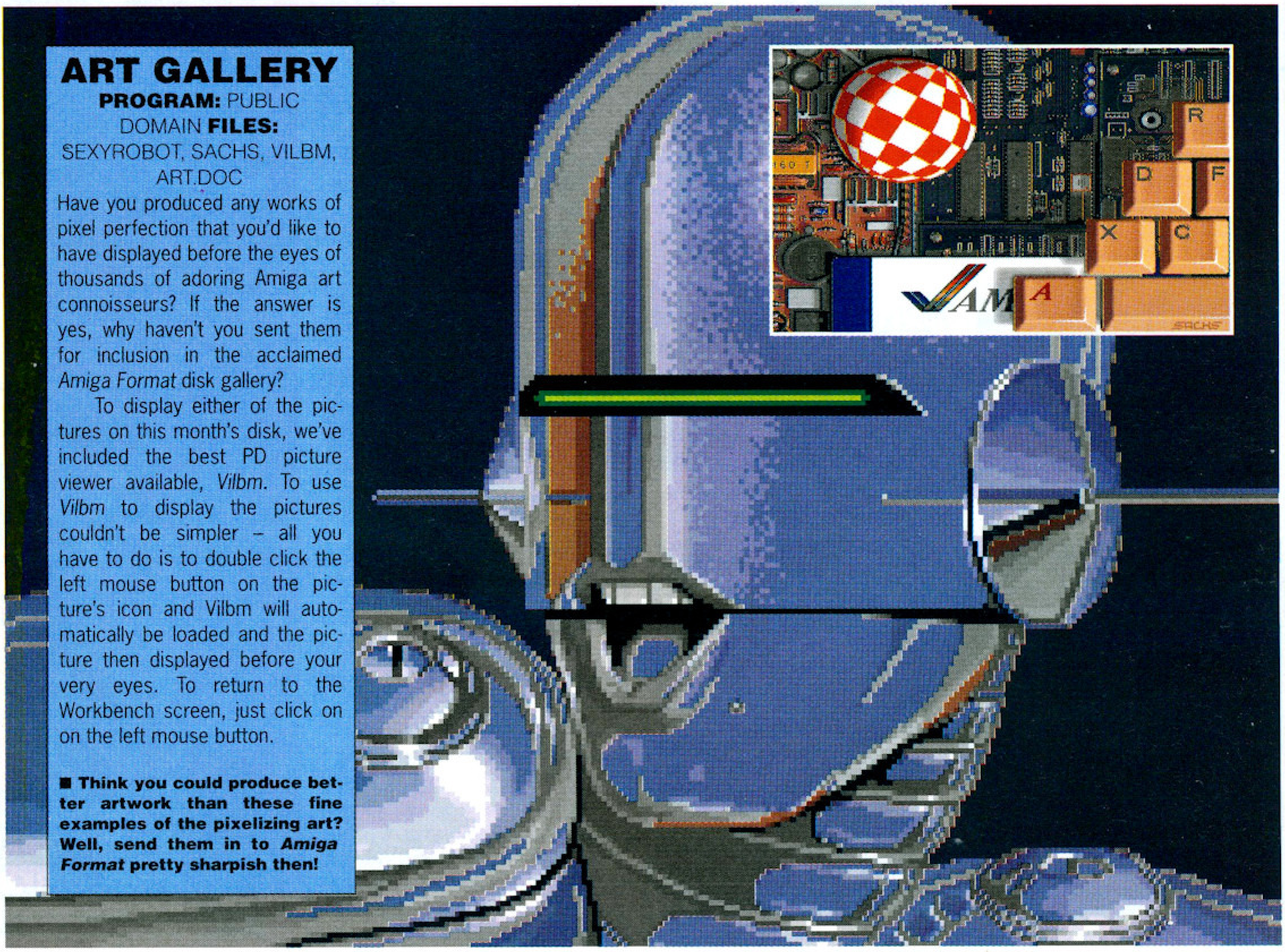
Getting Going

You can load *Icon Meister* using the usual 'point and double-click' method which every Amiga owner has grown to love. Full instructions are available within the *Icon Meister* drawer.

SPREAD

PROGRAM: PUBLIC DOMAIN
FILES: SPREAD, SPREAD.DOC

Like it or not, every so often the fun has to stop and one has to ►



ART GALLERY

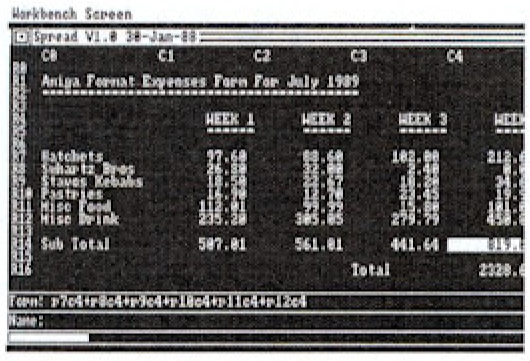
PROGRAM: PUBLIC DOMAIN **FILES:** SEXYROBOT, SACHS, VILBM, ART.DOC

Have you produced any works of pixel perfection that you'd like to have displayed before the eyes of thousands of adoring Amiga art connoisseurs? If the answer is yes, why haven't you sent them for inclusion in the acclaimed *Amiga Format* disk gallery?

To display either of the pictures on this month's disk, we've included the best PD picture viewer available, *Vilbm*. To use *Vilbm* to display the pictures couldn't be simpler – all you have to do is to double click the left mouse button on the picture's icon and Vilbm will automatically be loaded and the picture then displayed before your very eyes. To return to the Workbench screen, just click on on the left mouse button.

■ **Think you could produce better artwork than these fine examples of the pixelizing art? Well, send them in to *Amiga Format* pretty sharpish then!**

force oneself to actually do some work. I know, it's a dismal state of affairs but it has to happen occasionally. When the worst does come to the worst, *Spread* will help you get your financial affairs out the of the way so that you can



■ **Looking after your financial affairs can be a worrying, even frightening experience!**

go back to the more important task of saving the universe from three-headed martians with ten eyes and webbed feet.

Spread is (surprise, surprise) a mini Spreadsheet program that should help you keep track of those depressing facts and figures. The program supports a 36 by 60 column worksheet with variable width cells which can contain either text, numeric data or a formula, all of which are controlled from a nice friendly Intuition-based environment.

Getting Going

You can load *Spread* by double-clicking on our *Spread* icon from the Workbench. Read the instructions, in the *Spread* drawer, to get the most from this power utility.

DROPCLOTH

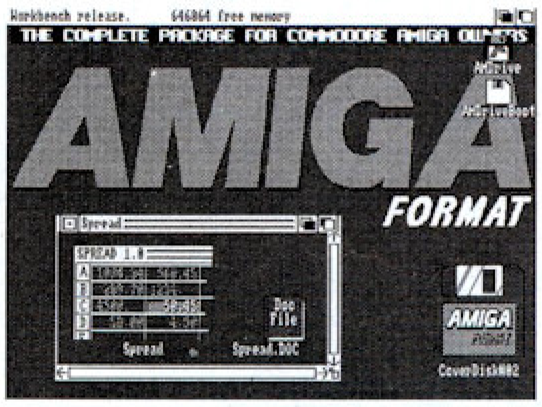
PROGRAM: PUBLIC DOMAIN
FILES: DROPCLOTH, DROPCLOTH.DOC, AMIGA FORMAT, BUTTERFLY

Is your Workbench screen a bit on the dull side? Like it or not, blue on white isn't exactly going to win any prizes for imaginative design.

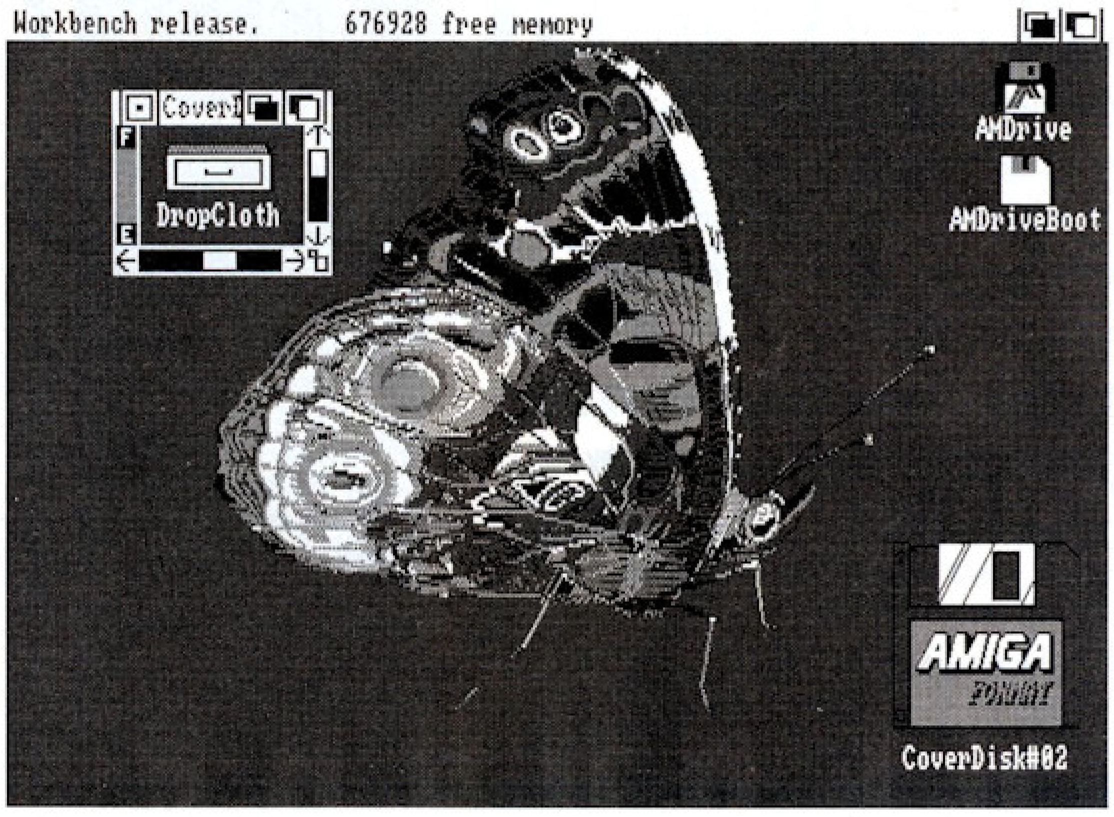
DropCloth is a neat little utility that allows you to place any standard 640 by 256 (or 200 if you've got an NTSC Amiga), four-colour IFF picture into the backdrop of your Workbench screen. Anyone who has used a machine such as a Macintosh or an Sun Workstation (we can only but dream!) will know how much a *DropCloth* utility can brighten up a dull work screen.

Getting Going

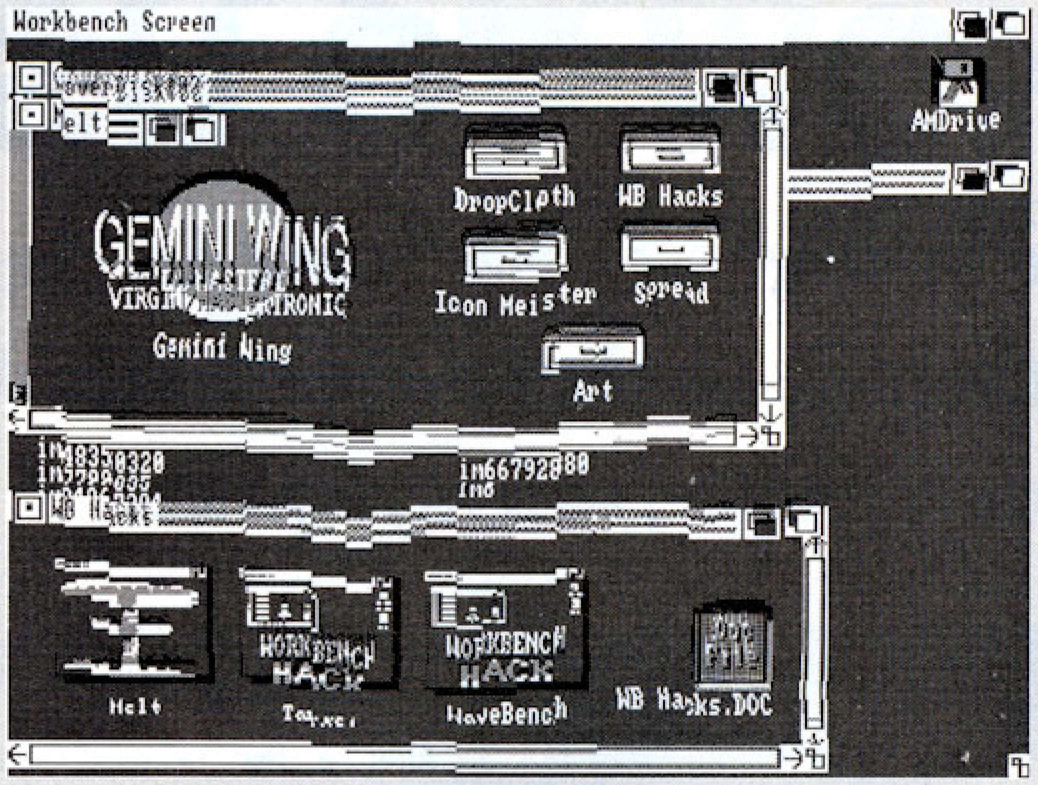
To use DropCloth, the first thing you must do is to either create a medium-resolution picture in your favourite paint package or alternatively, suitable pictures can be found in abundance in the PD libraries. Once you've got a picture that you'd like to use, you must alter the picture's icon so that when you double-click on it, *DropCloth* is loaded instead of the program that was used to create it. This is achieved by clicking once on the picture's icon, and the selecting 'INFO' from the Workbench menus (which are accessed by pressing the right mouse button). After a few sec-



onds (and possibly disk swaps), a window will pop up containg all sorts of useful information about the picture. Next, locate the 'DEFAULT TOOL' string gadget, click once within it, erase the old contents and type in 'DROPCLOTH' and press return. Finally, select 'SAVE' and you're ready to go. Now all you have to do is to double-click on the picture's icon and it will be loaded into the Workbench screen (note that the *DropCloth* program must be in the same directory as the picture). ■



■ **Now doesn't that look a lot nicer that the usual blue on white!**



■ **Oh no! What's happening to my Workbench!?**

WORKBENCH HACKS

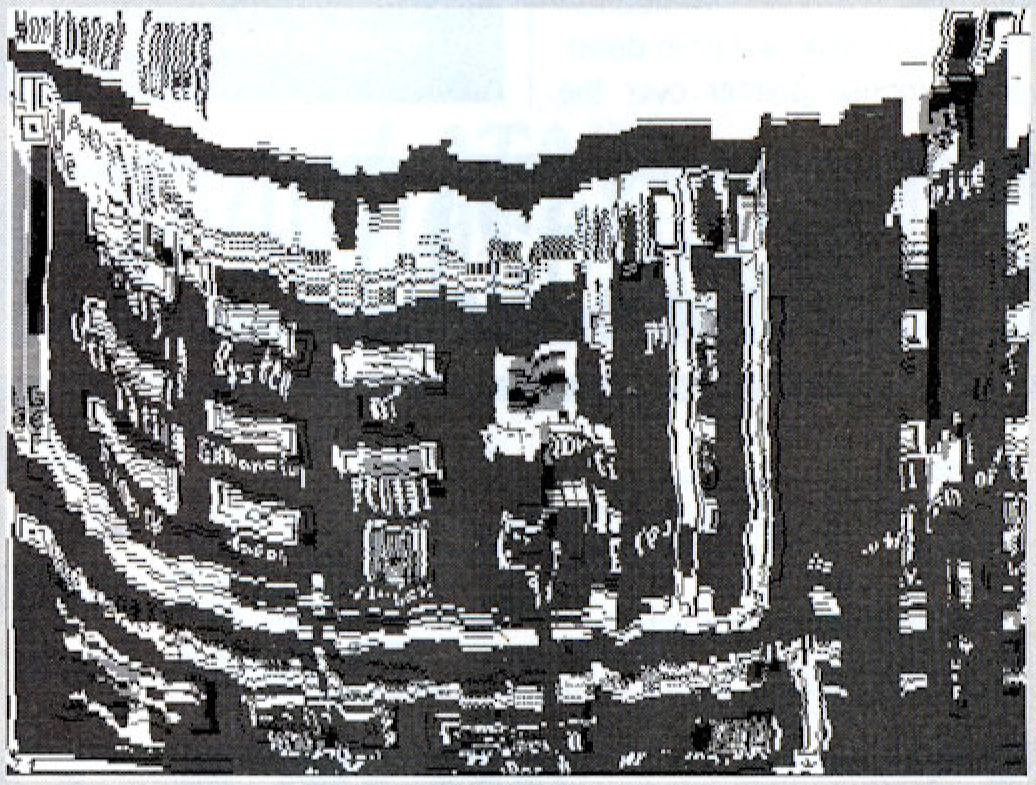
PROGRAM: PUBLIC DOMAIN
FILES: TARGET, MELT, WAVEBENCH, HACKS.DOC

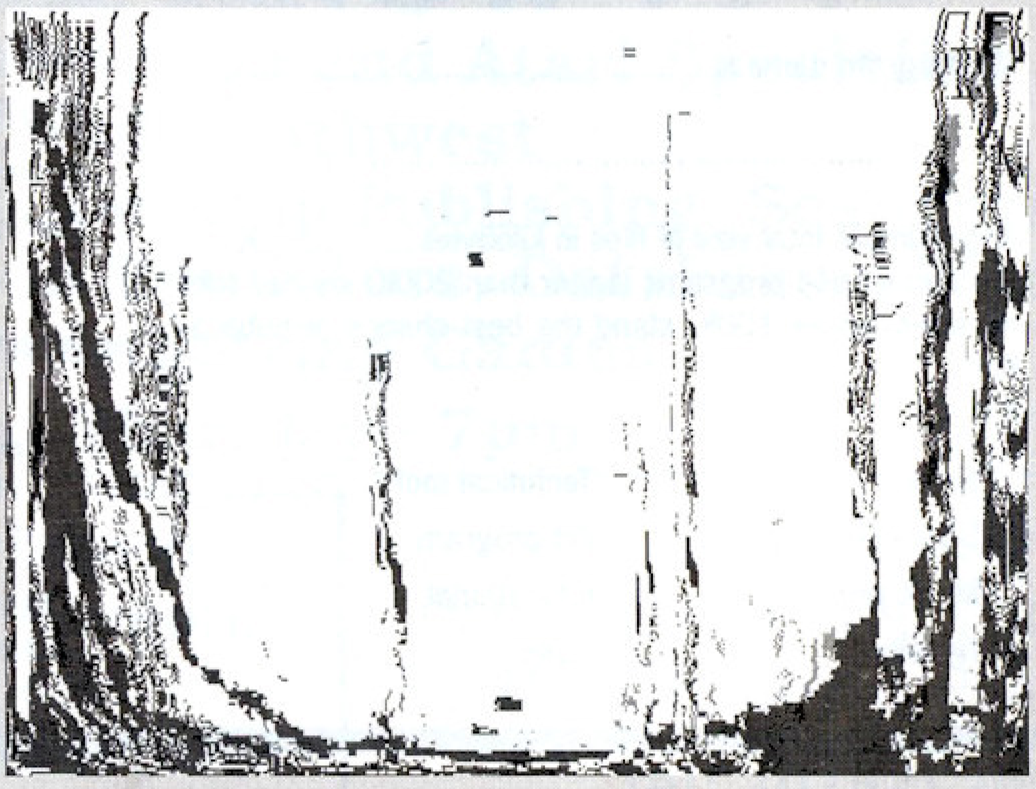
All these serious and techie programs can soon get to you unless you're getting a regular dose of something a little 'different'. So just what does the doctor order when you need a little light refreshment? The *Amiga Format* Workbench hacks of course!

This month, we've got three hacks for your perusal instead of last month's two. The first, *Target*, is a fun little mouse-pointer hack which will let you unleash your fury on any poor, unsuspecting icon. The final two hacks are true screen hacks whose sole role in life is to do rude things to your Workbench screen.

Getting Going

You can load any of the Workbench hacks by double-thumping the left mouse button on your electronic pet rodent. Full instructions(!) are available (as always) within the *WB Hacks* drawer.





HOW TO USE THIS DISK

Before using your Amiga Format disk, you should make a back-up of the master disk as soon as possible. This is very important!

BACKING UP YOUR DISK

Copying the disk may sound like a complicated task suitable for techno-buffs only, but it is surprisingly simple provided you read the following instructions carefully:

1. First, turn on your machine and load Workbench. Once the Workbench screen appears and the disk-drive light goes out, remove your Workbench disk and insert our cover disk.

2. Next, **click once** on the coverdisk icon and then press the right mouse-button and the Workbench menus will appear. Now, while **keeping the right mouse-button depressed** (you can cheer it up afterwards!), move the mouse pointer over to the 'Workbench' heading and a menu will drop down. Move the mouse pointer over the 'duplicate' menu option and then press the left mouse-button.

3. After a few seconds' disk access, the Workbench DiskCopy tool will be loaded and run. Now just follow the on-screen prompts and your *Amiga Format* coverdisk will be copied to a backup disk. When the machine asks for the destination, insert your blank disk into the drive. Further instructions can be found in the user's guide that comes with your Amiga.

USING THE PROGRAMS

All the programs on the *Amiga Format* disk are specially set up to make them as easy to use as possible. If you can use the Amiga's Workbench then you can use our coverdisk! If you do have problems with a program, full instructions on loading and using the programs are included in the disk pages and these should get you up and running. If you still have problems, you should read the documentation file (.DOC) that is included with every program.

To run any of the programs on this month's coverdisk, all you have to do is follow a very simple procedure. Unless specified differently within the disk pages, just double-click on the program's icon on the Workbench and the program will load and run. Full details on how to use the programs once they have run are included with the disk pages and as a text file accompanying the program.

To display a documentation file, just double-click on the appropriate .DOC file to be viewed and a window will open containing the file's contents. Pressing the space bar will advance a page at a time.

COPYING THE DISK

Unless specifically stated, the programs on the cover disk are not in the public domain and the copyright remains with the author. Selling or distributing these programs without the author's permission is against the laws of copyright.

IS YOUR DISK FAULTY?

We have done our best to check that the programs on the *Amiga Format* coverdisk are simple to use, error-free and have no known viruses. However, we cannot normally answer telephone queries on using the software, and we do not accept liability for any consequences of using the programs.

If your *Amiga Format* disk is faulty – and out of the tens of thousands duplicated, some are unfortunately bound to be – you should send it back for a free replacement within a month of the cover date to: AMIGA FORMAT SEPTEMBER DISK, DISCOPY LABS, UNIT A, WEST MARCH, LONDON ROAD, DAVENTRY, NORTHANTS, NN11 4SA.

If your Amiga refuses to accept the disk, try using the DISKDOCTOR utility on your Commodore Workbench disk to rescue it before sending it off for a replacement. Full details of DiskDoctor can be found in the user's manual that came with your machine.

YOUR PROGRAMMING SKILL COULD EARN YOU £800

Name..

Address ....

....

....

Phone: ....(Daytime)
(Evenings)

My program name is...

....

Approximate total size of files in kilobytes.................K
(we cannot use programs longer than 200K; shorter submissions, under 100K, stand the best chance of publication)
It is a:

- ☐ Game
- ☐ Business utility
- ☐ Music program
- ☐ Novelty
- ☐ Technical tool
- ☐ Art program
- ☐ Educational
- ☐ Other

BRIEF DESCRIPTION ....

....

....

....

CHECKLIST (please tick):

- ☐ Stamped addressed envelope for return
- ☐ README.DOC explanation file on disk
- ☐ Printout of README.DOC file (if possible)
- ☐ Name, address, machine type written on label
- ☐ Disk certified virus free

IMPORTANT – Please sign this declaration:

This program is submitted for publication by Amiga Format *. It is wholly my own work and I agree to indemnify Future Publishing against any possible legal action should copyright problems arise.*

Signed ....
Date ..../......./.......

If you've got any programs for the Amiga which you think other readers would find useful, interesting or amusing, we'd like to know about them.
1. Make sure your program is foolproof to use.
2. Create a file called README.DOC on the disk which explains exactly how to use your program.
3. Fill in this form, sign it, and send it without delay to:
Cover Disk Software
Amiga Format
4 Queen Street
BATH BA1 1EJ
(Photocopies are fine if you don't want to damage the mag)
You could win a share of £800 prize money for the best programs each month.

S.D.C., 60 Boston Road, London W7 3TR

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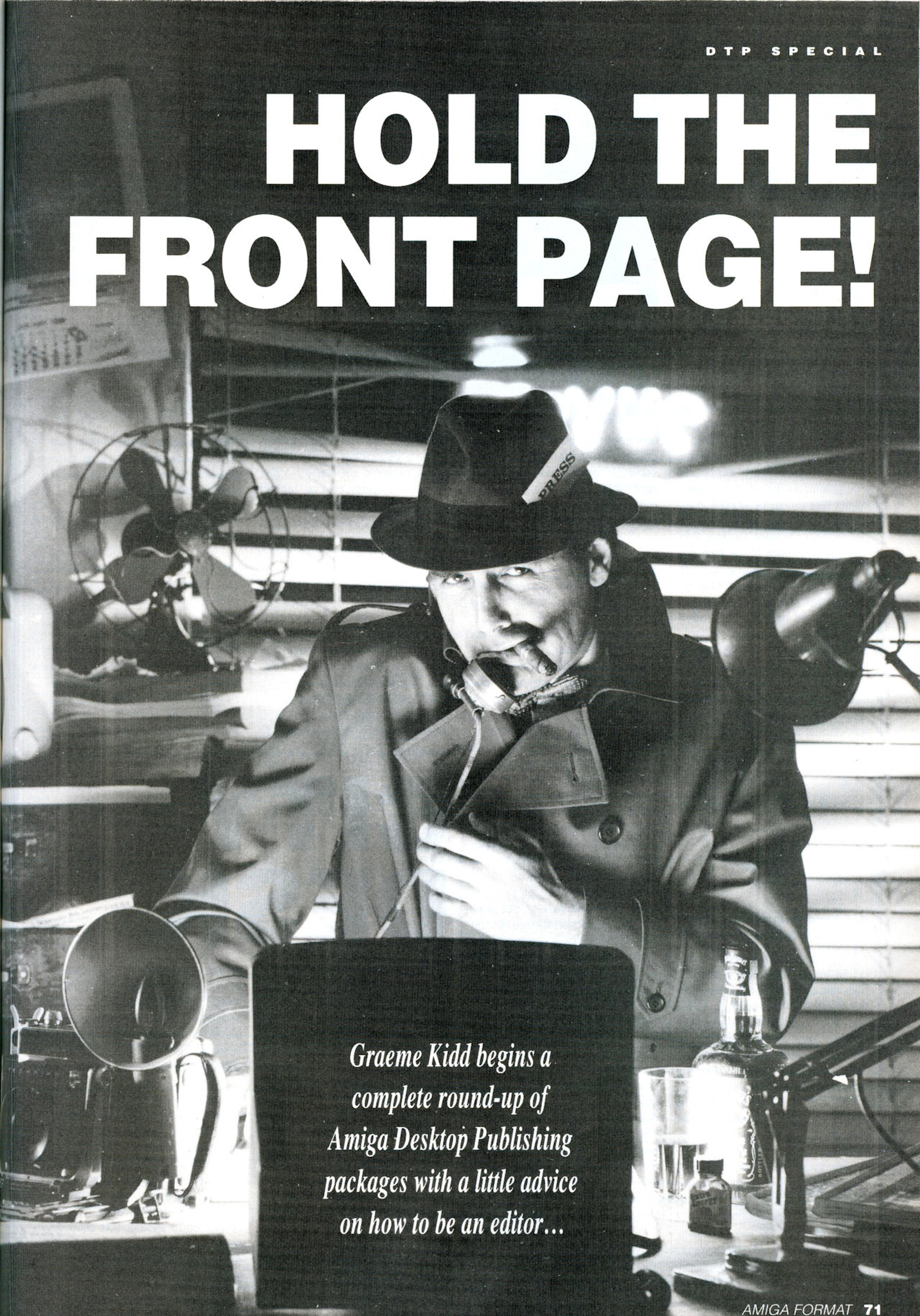
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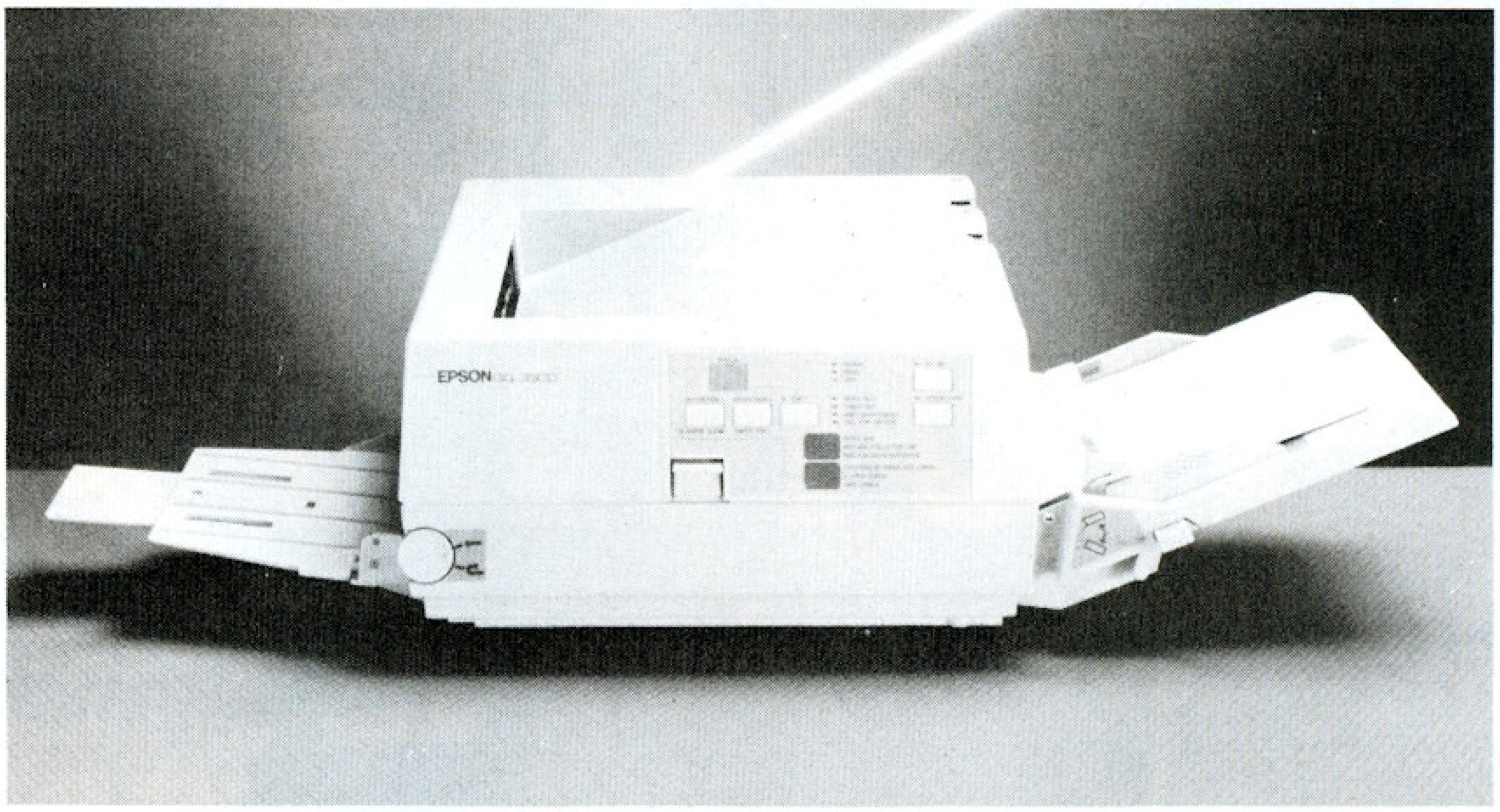
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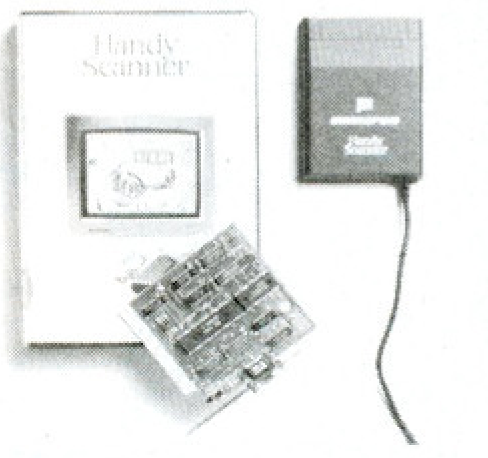
Graeme Kidd begins a complete round-up of Amiga Desktop Publishing packages with a little advice on how to be an editor...



Desktop Publishing entered the litany of computer buzzwords a few years ago: invented, so some cynics say, as a new way of selling computers. Without doubt, DTP sells computers: mostly IBM PC compatibles and Macintoshes, rather than Amigas. Could this mean the Amiga is just a games machine, unsuited to DTP?

Traditional publishing involves producing text as type-written 'hard-copy', rekeying it into a typesetting machine and printing it out as 'galleys', effectively just columns of set type in strips. Typeset galleys are then cut up and stuck down, together with pictures, to make artwork from which pages may be printed. Apart from expensive cameras and typesetting equipment, much glue and sharp bladework is involved in producing artwork by traditional methods. Even more expensive equipment is needed to make pages that are to be printed in full colour.

In theory at least, Desktop Publishing takes much of the pain and expense out of producing final artwork from which pages may be printed. Text can be keyed into the computer and manipulated, producing most, if not all, of the effects achievable on expensive typesetting equipment. Pictures can be drawn on the machine itself or be scanned in as image files, and then edited, retouched and placed on a page held in memory. Once words and



■ A hand-held scanner allows the easy importing of graphics.

pictures have been combined in a layout and embellished with tints, rules and other fol-de-rols, the whole document can be saved as a file. Print out the file, and you have final artwork from which a printer can make plates and do his job.

Setting up a desktop publishing workstation around your Amiga could easily involve spending £10,000 on extra hardware and the software to drive it. Fortunately, for most purposes a few hundred pounds is all that's needed to get going, even if you're starting out on an A500.

Desktop Publishing can be fun and rewarding: financially rewarding with the right mix of skills, equipment and clients, but getting that mix right can be a little tricky. No-one seems to be offering training courses in Amiga DTP, and while some DTP design courses would be applicable, you're going to be on your own so far as getting to grips with the software.

The first thing to sit down and think about is how much work you want to do on your DTP kit, and what sort of quality you really need. To flash up a simple newsletter that appears once a month, you might get away with a wordprocessor and avoid DTP packages altogether. Similarly, if the odd poster is all you require, an art package might solve the problem, without recourse to page makeup software.

With a basic A500, a nine-pin dot-matrix printer and around £100 of DTP sofware, quite serious work can be undertaken. The next step up involves investing in a 24-pin dot matrix, or even an inkjet printer, a Megabyte memory upgrade and one of the more expensive DTP packages. Remember, however, that there's no need to splash out on expensive output devices to obtain really high definition output: step forward *PostScript*, a page-description language that is device-independent. Providing your DTP package can produce *PostScript* files from your pages, it will be possible to use a friend's laserprinter, or pay a bureau to produce laserprinted (usually 300 dpi) or imageset (1200dpi and up) pages from your disk.

A hard disk drive is probably next in line as a DTP system upgrade, as it makes life easier. Add on several thousand pounds for the convenience of a *PostScript* printer sitting next to your Amiga, and you have a professional-quality DTP workstation at a fraction of the price of a Mac or PC compatible system with the same power.

Once the plunge has been taken, the potential for spending money is enormous. A hand-held scanner could be added to the system for a few hundred pounds more, or even a high-quality flatbed or photographic scanner for a few thousand pounds could be tagged on. Throw in a top-quality art package such as *DPaint III*, invest in a large-screen display and you have a system that few professional outfits equipped with Macs or PCs could find fault with.

Without doubt, the Amiga can get up there with the high-end PC compatibles and Macintoshes. People are producing entire magazines on Amiga systems, but few corporate-type people seem to realise that it can be done effectively. PCs and Macs – with their high price tags – dominate 'Professional Publishing' as really serious DTP is called these days.

■ With a laser printer like the one shown above, you can begin to get very close to print quality, though it does cost.

Next issue, we'll be revealing how the Amiga can be used to produce full-colour magazine pages, as well as taking a really close look at the two most competent Amiga DTP packages: *Professional Page v1.2* and *PageStream*. How do they compare with DTP programs such as *Ventura*, *PageMaker* and *Xpress* that cost over twice as much and have become 'publishing industry standards? Find out next month. ■

CITY DESK

The first painful obstacle encountered when attempting to master *City Desk* is the manual. While all the information needed to drive this powerful package is contained in the manual, it is pres-ented in a form that only arch propeller-heads will appreciate. *City Desk* was used to produce its own manual, and tellingly there isn't a section on design. Only three illustrations are offered to help the new user get to grips with it, and one of those is a wedge of cake in a sample page!

City Desk takes a different approach to getting text and graphics on the page: there isn't a frame or frame tool in sight. The system relies on the creation of columns and text format defaults before text is flowed into a document. Select a text file for import, and it is flowed onto the page, placed in position with a cursor, according to the page and column defaults that have been set up.

Once on the page, text becomes an object that can be moved around, edited, or reflowed into a new layout. Attributes governing justification, spacing, font and font size and degree of horizontal or vertical magnification of the font may be edited, and a chain of text can be broken, added to, or connected to another text chain. In many ways the way of working mirrors traditional handling of galleys in physical paste-up: text ▶

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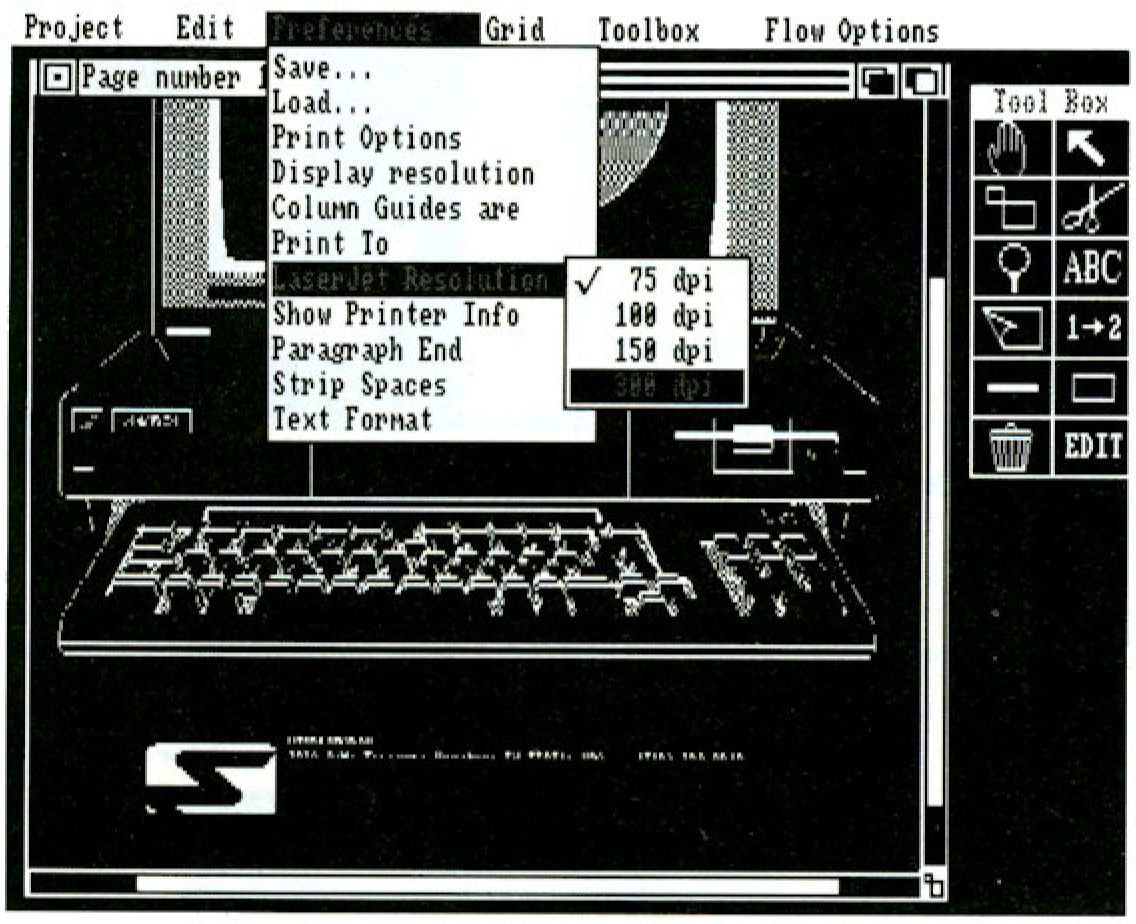
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■ ***City Desk* offers a poweful zoom facility that allows you to get close up to the details on a page. In many respects, it is the most powerful low-cost DTP package, but it's seriously unfriendly in actual use.**

is placed on the page, lifted and re-placed, or lifted, re-typeset and replaced.

Style information is embedded as command codes in the text file and is automatically carried into *City Desk* when a file is imported. Text can be edited for content and typographical style once on the page, using a weird one-line editor: to put a word into bold, for instance, you have to scroll through an entire chain, find the word and then insert [b] in front of the word: and then the appropriate command in square brackets inserted after the word to ensure that the remainder of the text chain is not emboldened.

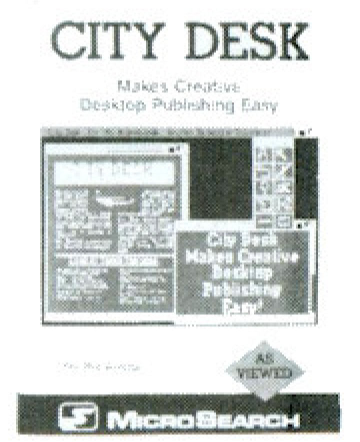
A simplistic graphic editor is part of the *City Desk* package, and it boasts basic drawing, rotating and fill tools with which quick sketchettes may be created or imported IFF files tarted up. Graphics can be cropped and sized on the page, and a small, rather tasteless library of clip art is supplied with the program. Rules in several patterns may be drawn around text or graphics, and drop shadows added in different configurations.

Conclusion

City Desk is, without doubt, a powerful page creation package, but the user interface in these days of WIMP environments leaves a great deal to be desired. In some respects, you are expected to 'program' layouts rather than design them and make fluid modifications as work progresses. Only saints will avoid hurling the manual across the room several times during the learning process. If long documents that stick to a basic style are what you need to produce, however, *City Desk* is well worth getting to grips with because all the text format commands can be entered in the file as it is being written, and PostScript output is supported if posh results are required for your books or manuals. ■

Coming Soon...

City Desk V2.0 has been released in the States, but has yet to make it to these shores according to Precision Software. From an American flyer on the new version, *City Desk* would appear to be much enhanced. A full screen text editor, a new graphics editor and the ability to move columns seem to the be three major improvements. A brand new manual is also promised, which could add up to a much more friendly product. Look out for the details in a forthcoming issue, but in the meantime it might be worth giving Precision a ring to see if they have any Version 1.1s going cheap...



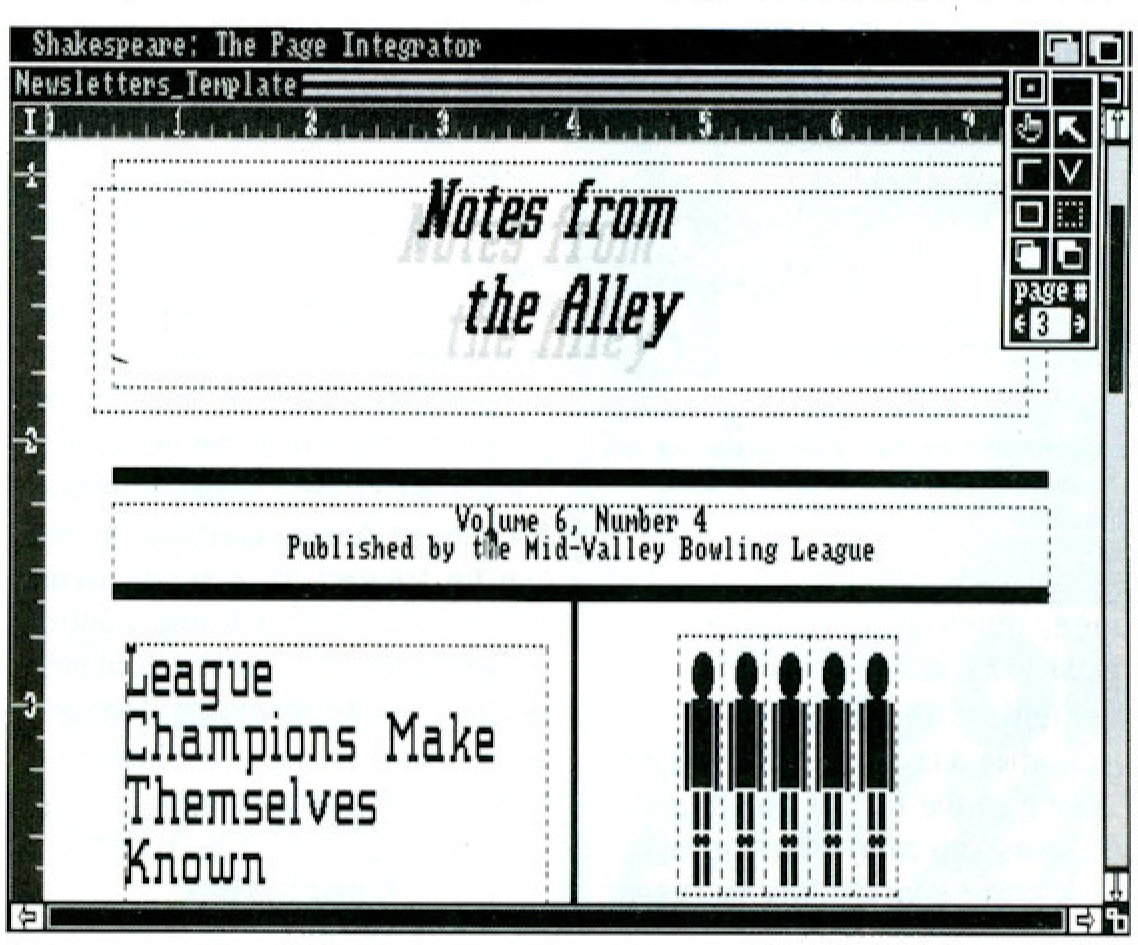
CITY DESK V 1.1a
£130.39 plus VAT ■ All Amigas
Precision Software Ltd
01 330 7166

SHAKESPEARE

Recently reduced in price by almost a third, *Shakespeare* is the only budget DTP package that allows colour on the page to be carried through to hard copy. Providing you have access to a colour printer, then type, tints and images can be produced in glorious hues. Don't expect too much: the software doesn't produce colour separation sets for full-colour offset printing, and even if you have spent a five-figure sum on a colour PostScript printer, *Shakespeare*'s PostScript output is greyscale only.

In use, *Shakespeare* is perfectly friendly, if a little idiosyn-cratic. Once the basic format of a document – or 'issue' – has been set, frames are drawn on the page. Text and graphics, known as 'articles', may then be placed in frames and manipulated. Page elements need to be pre-loaded into memory via a Chart menu before they are available. It is still possible to key text directly into a new frame, but it won't be saved unless a dummy file was loaded into the frame from disk and amended. This way of working isn't really intrusive once mastered, encourages orderly filing, and has the advantage of warning the page designer when memory limitations impose restrictions.

Unlike most DTP packages, *Shakespeare* doesn't offer a magnify function. An optional page preview display gives an overall impression of a page, but all work is carried out at full-size. Rules at the top and left of the work area are used in conjunction with alignment markers to place frames on the page accurately. Up to nine columns may be created across a page, with or without vertical rules, and can be used as layout guides or filled directly with text.



■ **While it is great for anyone with a colour printer, *Shakespeare* is a bit awkward to work with, especially on long documents...**

Text loses any bold, medium, italic or underline format attributes when it is flowed onto the page, and has to be adjusted by hand, which proves a pain with long documents. Once a text file has been loaded and selected there are two ways of getting it onto the page: it can be flowed into a series of frames drawn on the page with the frame tool, pouring into the frames as they are drawn, or it can be poured into a set of empty frames already placed on the page. Unfortunately, there's no indication that a text file has overflowed a set of frames, and it would be possible to 'lose' text in a long or complicated document. Text reflows automatically when the text is edited or the frames are resized or deleted.

While it is possible to mix point sizes and fonts inside a frame or group of frames, thereby producing crossheads and so on, an 'insert frame' tool allows a new frame to be inserted between two

active text frames in a text chain, or at the head of a series of linked frames. In this way, headings, captions and titles can be placed at discrete points on the page without being affected by reflows of body copy. With a little practice, text can be shuffled around the page very accurately.

Shakespeare imports colour graphics in the IFF format, but prefers them to be saved as brushes and can't cope with with HAM graphics. Each graphic brings its own colour palette with it, and this palette is applied to the whole document on screen when the graphic is selected as the active frame. The palettes for individual text or graphics frames can be altered, and depending on how memory-rich you are, the number of colours in the display (up to 32) and its resolution can also be changed. Changes to the display do not affect the final output on a colour printer, which produces all colours from all the palettes.

Conclusion

Shakespeare is a powerful DTP tool, supported by a clear and informative manual, but it is let down as a serious tool for producing long documents with complicated text formats by its inability to import format information with text. While graphics can be cropped and sized, once imported they can't be edited and there are no drawing tools for the designer to play with. Printer set-up could prove a bit fiddly, and until you get the program and the printer in tune with one another, What You See Won't Quite Be What You Get.

Brilliant for anyone with a colour printer, *Shakespeare* is best suited to single page work, and isn't top choice for mono. ■



SHAKESPEARE V 1.1
£99 inc VAT and P&P
■ All Amigas
Cloudhall Limited
0604 231 2111

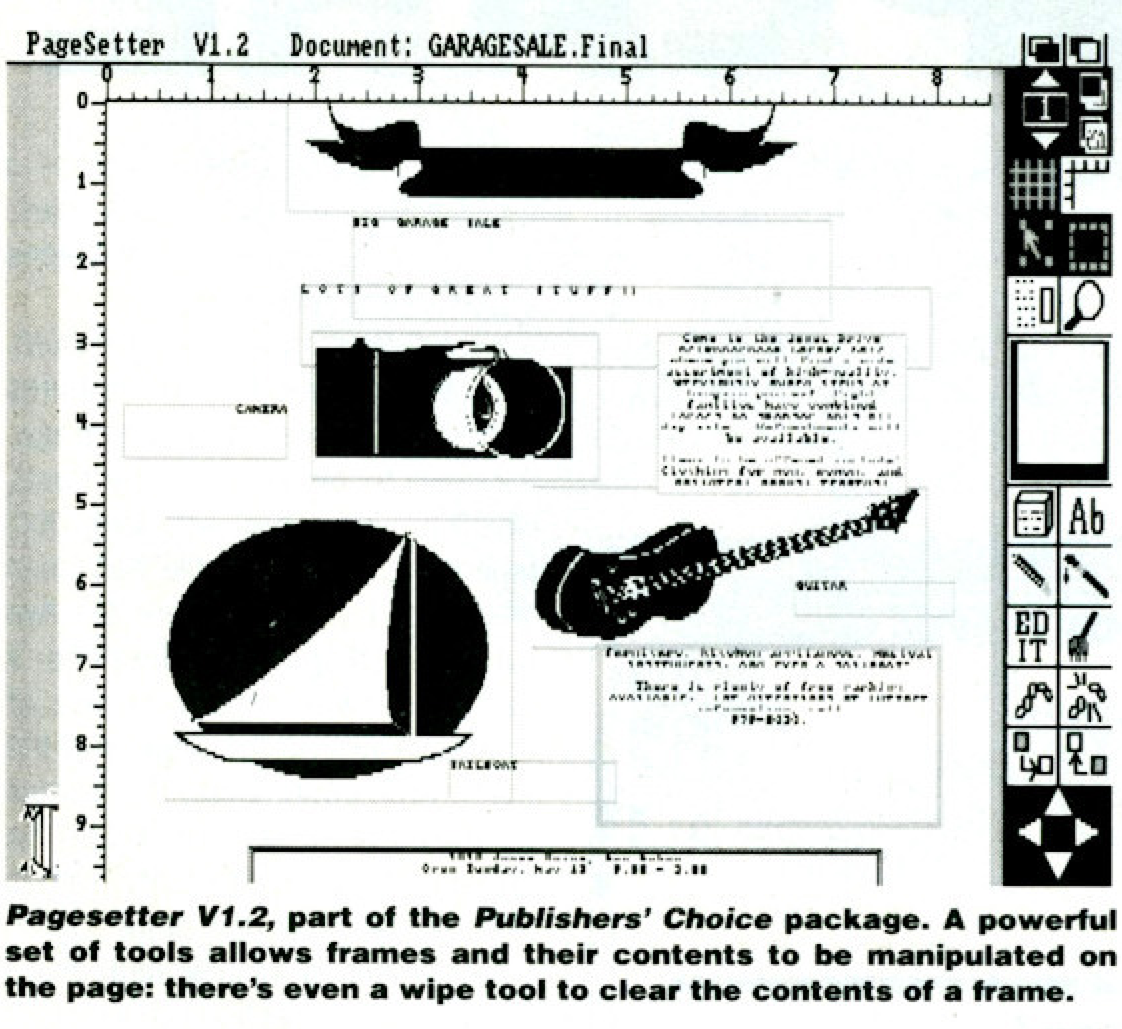
■ NB: The price of *Shakespeare* is shortly expected to drop by around 20%, so watch out for ads.

PUBLISHERS' CHOICE

Without doubt, this package is the best DTP deal available on the Amiga. Not only do you get a copy of *PageSetter V1.2*, but the full-featured word processor *KindWords* is included, along with a disk of clip art, a disk of headline fonts and *LaserScript*, a utility that allows *PageSetter* files to be output on PostScript printers. All this for £20 more than the cost of *PageSetter v1.1* on its own...

So what about all the 'extras' accompanying the DTP software: are they useful or mere padding? *KindWords* is a powerful word processor in its own right, capable of accepting graphics files as well as a range of fonts other than those supplied with the Amiga system. A spelling checker and thesaurus help with proofing and creating text, and such frills as headers and footers are also offered. With a little thought, *KindWords* itself can accomplish many basic DTP tasks. The clip art collection supplied is respectable, and is supported by a Headline Font Pack. Finally, *LaserScript* is more than just a PostScript back end to *PageSetter:* it can be used to make pages from several *PageSetter* documents... not obviously useful until you try!

PageSetter itself is effectively three functions rolled into on: text editor, graphics editor and page layout device. Following the analogy of a page on a desk, *PageSetter* allows text and graphics to be cut and 'parked' outside the page, much as a paste-up artist might work in the real world. Thus elements can be placed on the desk while a layout is being revised. Flipping to the text or graphics editor takes you away from the layout desk into separate workscreens; once the text or graphic work has been completed, you return to the layout board.



***Pagesetter V1.2*, part of the *Publishers' Choice* package. A powerful set of tools allows frames and their contents to be manipulated on the page: there's even a wipe tool to clear the contents of a frame.**

The text editor can load text from a variety of other word processors and offers basic block manipulation functions, find/replace and mark/exchange operators. It would be perfectly comfortable to write all your text inside this editor, though using *KindWords* confers the benefits of spelling checker and thesaurus. A pop-up text-editing window can be used as an alternative for writing short captions and headlines.

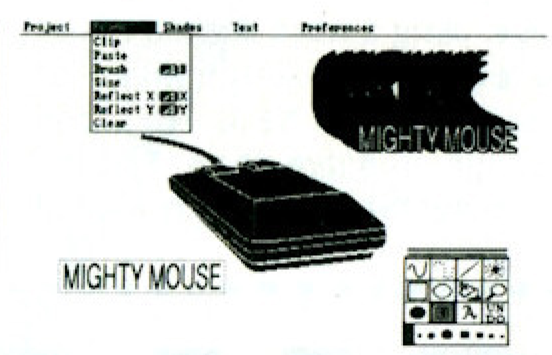
The graphics editor would make a respectable, if simplistic, stand-alone package. Solid and dotted line and curve facilities are offered, along with an airbrush, a fill facility, text input, and frames as well as a set of cropping and sizing functions: in fact, all that's needed to create, amend, size or crop graphics is present.

PageSetter works on the frame principle, and a grid system can be enabled to assist with the positioning of frames. Units of measurement on the grid and rulers can be in inches or picas. When text is imported, the order of flow can be governed by the order in which frames have been chained together. A chain of boxes containing text can be treated as a single item. The attributes of a frame control the attributes of the text it contains, including justification style, font and size, so inserting crossheads in body text requires separate frames.

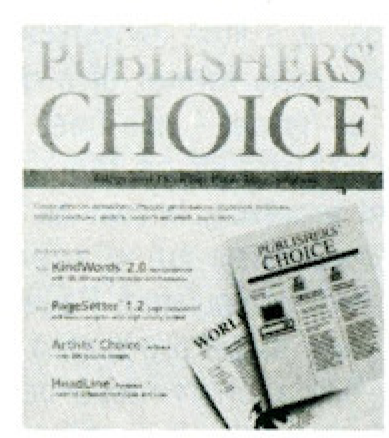
Conclusion

While the package bills itself as an integrated solution, the fact that the programs it contains were not written as a complimentary suite means that the level of integration is not perfect. Text prepared in *KindWords*, for instance, does not arrive in *PageSetter* with font and hyphenation information intact. Nitpicking aside, the pack offers all you need to get started, and more, and is accompanied by an excellent manual that makes the learning curve painless to ascend.

PageSetter V1.2 is an elegant and powerful package and, in the company of its boxmates in the *Publishers' Choice* pack, must be the best low-cost Amiga DTP option available. ■



■ *PageSetter* boasts a poweful graphics editor that it has all the facilities of a basic, stand-alone art package.



PUBLISHERS' CHOICE
£99.95 inc VAT ■ All Amigas
H&B Marketing,
0895 444433

WORKBENCH

The tips have been flooding in thick and fast this month and as a result we are proud to announce that we have our first Workbench prize winner. Stand up Charles Bernasconi, because you've just earnt yourself thirty smackeroonies as reward for your efforts.

PROBLEMS WITH THE EDITOR

Help! I've got problems with my Amiga which the official Commodore manuals don't even get near answering.

1. I have tried using the Amiga's Command Line Interface, but I can't seem to be able to edit the 'StartUp-Sequence' file that controls the boot sequence of my Workbench disk. I've tried ED and EDIT, but neither would even display the file.

2. The Workbench font editor, FED, which is to be found within the 'Tools' directory of my Extras disk, doesn't allow me to edit fonts from other disks other than those on my boot disk. How can I tell it to edit the fonts from my 1.3 Extras disk?

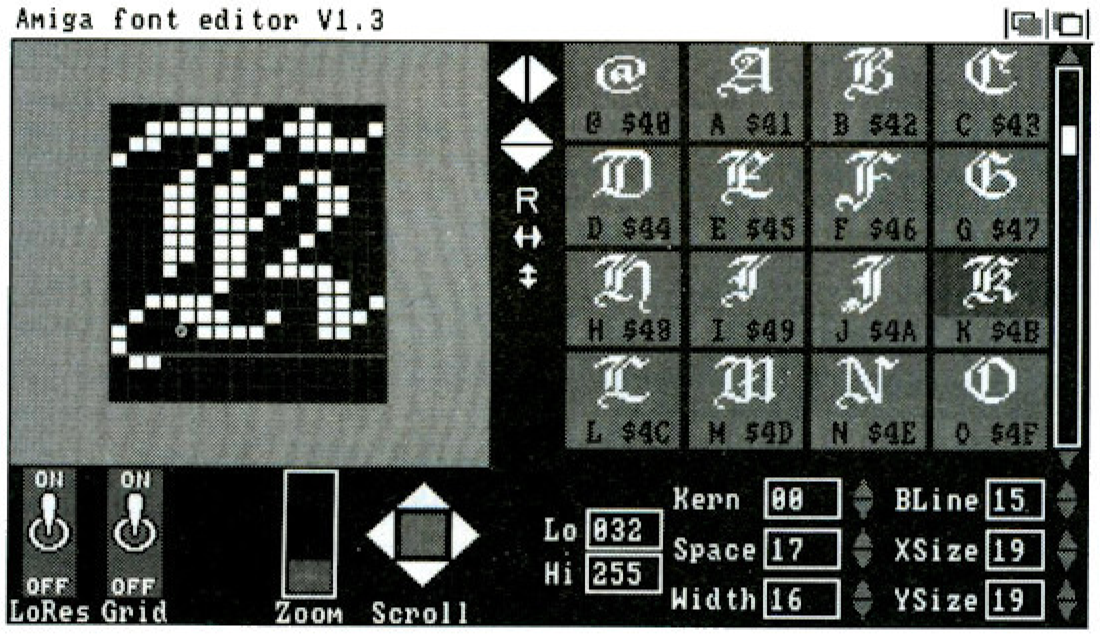
3. The new fonts on my 1.3 Extras disk sound pretty good, but I can't seem to be able to access them. Please help.

Corin Pearce
Bedford, Beds

1. Are you entering the filename of the file to be edited when first invoking ED? If you enter the correct filename including the full path, there shouldn't be any problems at all. Try entering 'ED S:STARTUP-SEQUENCE' to edit the StartUp-Sequence of your boot disk. This should work.

2. The Amiga fonts are always read from a logical device called FONTS: which is, by default, assigned to the 'Fonts' directory of your boot disk. To access fonts on other disks, you'll have to tell the system where your new fonts are using the 'ASSIGN' command. To make FED edit the fonts on your Extras disk, you would type 'ASSIGN FONTS: Extras:FONTS' (Note that there is a space between FONTS: and Extras). Now all you have to do is to run FED and you're away.

3. Simple! You can either copy all the fonts on your Extras disk to your Workbench disk, or alternatively, use the 'ASSIGN' command as detailed in the answer to the second question.



■ FED: the complete answer to how to access fonts on other disks?

PUTTING THE BOOT IN

Could you please help me on the subject of making a disk bootable. I have tried to make my Amiga BASIC disk autoboot by moving the C directory, S directory and System directory from the Workbench disk to my AmigaBASIC disk. I've even tried using the CLI 'Install' command but have yet to have any success with it.

N Sowler
Merseyside

Making a disk bootable is fairly straightforward, and from what you've already said, you've almost cracked it. To make a simple disk that will boot to Workbench, you'll have to create an S directory, a C directory and a LIBS directory. Firstly, copy the files 'LoadWB' and 'EndCLI' from the Workbench C directory to your C directory, and the file 'icon.library' from the Workbench LIBS: directory to the new libs directory on your disk.

Next, you'll have to create a 'StartUp-Sequence' file. This file, which must be located in the S directory, is a batch file that is executed by AmigaDOS when you first boot your Amiga. For the sake of example, just create a StartUp-Sequence that contains the following two lines:

```
LoadWB
EndCLI
```

The final step to making your disk bootable is to actually write a boot block to Track 0 using the AmigaDOS 'Install' command. If the disk to be made bootable was in Drive 1 and your Workbench disk in Drive 0, you would enter 'INSTALL DF1:'. You now have a bootable mini-Workbench disk which can be inserted at the 'Insert Workbench' prompt and will self boot.

DISK COMPLAINT

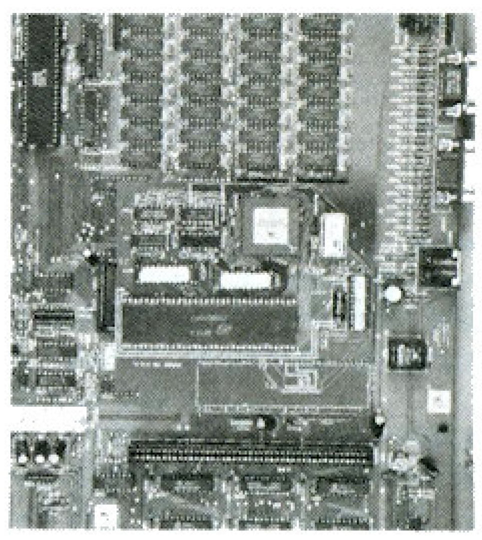
Why is it that the Amiga disk drives are so slow? Before I upgraded, I had a C64 and with the help of a special cartridge, all my games and other software would load in under 9 seconds.

I am also considering buying a 68010 in the hope that this will speed up my machine. Could you please answer the following questions concerning this upgrade.

1. What is the speed increase?
2. Will all my existing games software load with the 68010 processor?
3. Is the machine code the same?

S Gregory
Lowton, Warrington

The Amiga disk drives are indeed slow at times, but what you must consider is that the Amiga is loading considerably more data into memory than a C64 drive has to transfer when loading a game. This obvious problem will hopefully be rectified with the release of Kickstart and Workbench 1.4 which will see the arrival of the brand new 'FastFileSystem' for floppy disks. The fast file system has already been incorporated into hard drives and typically, speed increases of about seven times have been achieved.



■ The 68000 processor in all its glory, in situ on the PCB.

It probably isn't worth upgrading your machine to a 68010 if you use your Amiga primarily for games. The 68010 won't speed up your disk drives and will probably not make a great deal of difference to the vast majority of games. However, for heavy number crunching applications, the 68010 will speed up operations between 8% and 50%.

The vast majority of games software should work with the 68010 with no problems at all, because the 68000 series

HELP!

Is your Amiga causing your hair to drop out? Do you find yourself getting gradually balder every time you switch on your Amiga? If the answer is 'Yes!', then Workbench is the solution. While we can't restore your barren baldness to a field of golden locks (you could also try some hair tonic of course!), we'll try our best to solve any Amiga problems. Send your worried words (and bribes) to:

WORKBENCH HELPLINE
AMIGA FORMAT, 4 QUEEN STREET, BATH BA1 1EJ.

of processors are all upwardly compatible. The difference between the 68000 and the 68010 where machine code programming is concerned is that you cannot use the 'MORE SR,ea' operation as this is a privileged instruction on the 68010. To get around this, you must use the exec function GetCC().

WHAT'S THE POINT?

My problem may be a simple one, but it's been bugging me for months. How can I change the shape and colour of the mouse pointer on my Amiga? I know that I could use the Workbench Preferences program to edit the pointer on my Workbench disk, but how about PD disks? I've been trying to change the pointer on a Seventeen Bit Software disk without any success. I have even copied the Preferences icon from my Workbench disk to the PD disk, but it still does not work!
Arash Shababi
Kingswood, Surrey

When you boot a disk, the Amiga reads all the details it requires about screen colours, printer configuration and, yes, pointer definition, from a file in the 'DEVS' directory called 'system-configuration'. To copy the pointer definition from your Workbench disk to your PD disk, all you have to do is to copy this file to the DEVS directory of the PD disk. Simple enough, really.

AZTEC-NICAL AS YOU LIKE

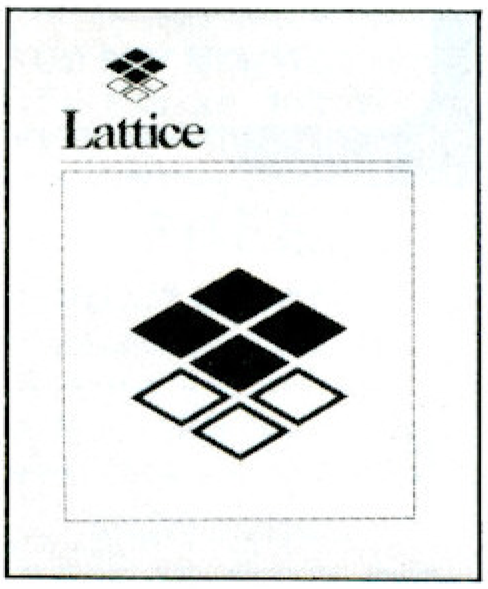
I have just purchased 'Amiga C for Beginners' by Abacus and have already stumbled upon a problem.

On Section 3.2 (Page 19), it gives two listings to bring the compiler into use. After typing in a simple C program, I tried using the instructions in the book to invoke the C compiler. Unfortunately, all that happened was that the machine told me that 'CC' was an unknown command.

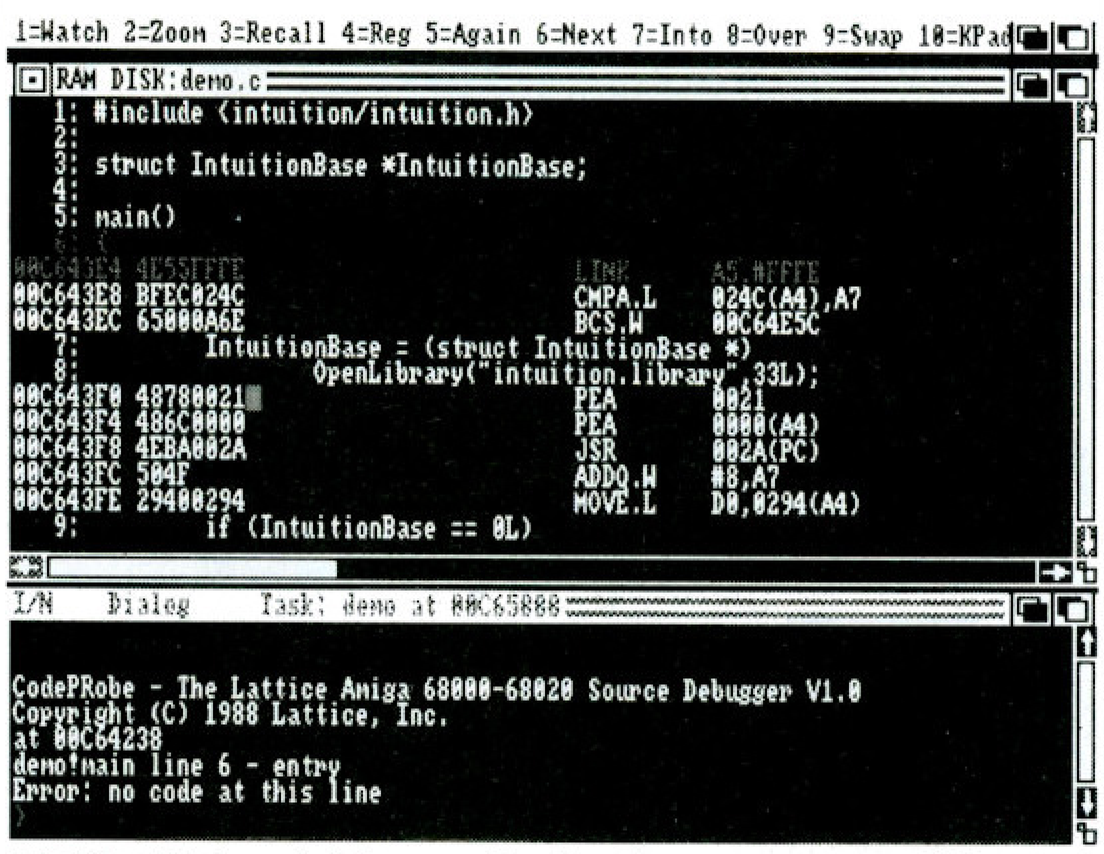
I have looked in the C directory, but cannot seem to find anything resembling the commands referred to within the book. Could you please tell me whether I have to buy either the Lattice or Aztec C compilers to be able to use the programs in the book.
A Messengur
High Wycombe, Bucks

To be able to compile C programs, you will indeed need to buy a C Compiler. Although both Aztec and Lattice will compile the same source code (programs), they use different filenames to invoke the compiler programs themselves (Aztec uses the Unix-like 'cc' and Lattice uses 'lc'). The Abacus book is written using the Manx compiler as the basis for all examples and so if you want to stick word-for-word to the book, Aztec C is your best bet.

Currently the best (and most complete) C compiler system available for the Amiga is Lattice C version 5, which is available from either HiSoft (0525 718181) or MetaComco (0272 428781) for around £250. ■



■ **Lattice C: currently the best C compiler available.**



■ **Lattice C at work. The compiler is, of course, an essential part of the use of a programming language, so choose a compiler carefully.**

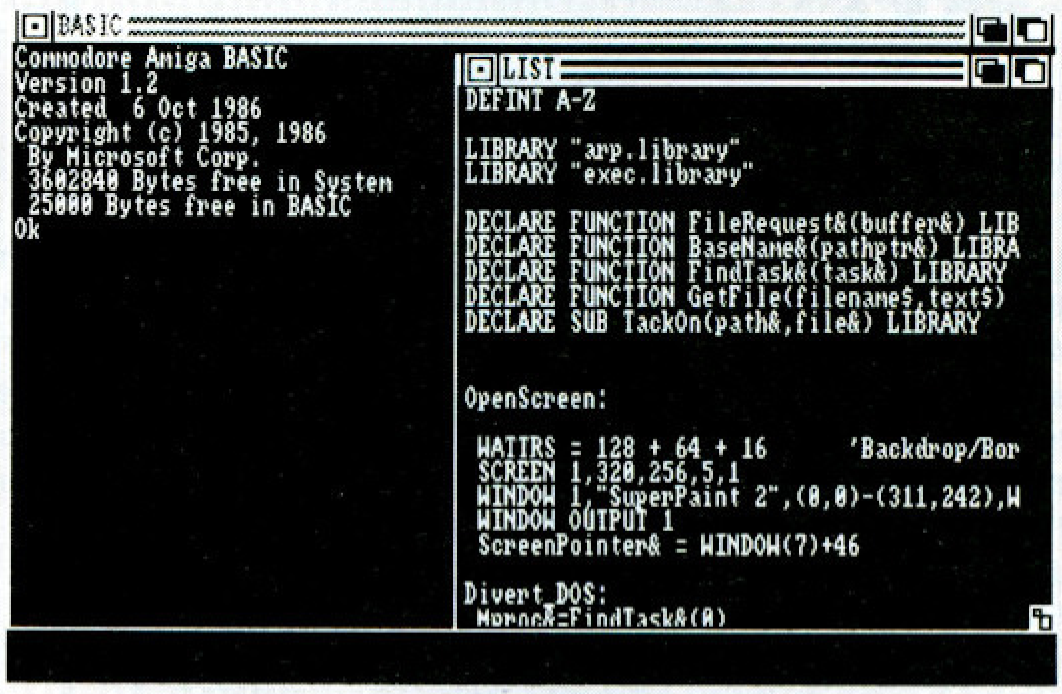
TURBO CHARGING AMIGABASIC

Anyone who has used AmigaBASIC for more than a couple of minutes will soon grow tired of it's oh-so-slow redraw rate. If you've never noticed, try moving a window in front of the BASIC 'List' window and then remove it and you'll see AmigaBASIC redrawing the program text at a phenomenally slow rate.

The reason for this is that AmigaBASIC uses the Intuition 'SIMPLE_REFRESH' technique to redraw the screen. This basically means that the AmigaBASIC program has to manually redraw every time you bring the 'List' window to the front of a group of windows.

The short BASIC 'patch' below cures this by changing the 'List' window's definition from 'SIMPLE_REFRESH', to the faster 'SMART_REFRESH'. Smart Refresh is faster because the window contents are remembered by Intuition every time a window obscures it. When the window is then removed, Intuition simply uses the blitter to paste the window contents back onto the screen. Clever eh!
Charles Bernasconi
Ashow, Kenilworth

```
DEFLNG a-Z
CHDIR "Extras:BasicDemos/"
LIBRARY "dos.library"
DECLARE FUNCTION xOpen() LIBRARY
f=xOpen(SADD("Extras:AmigaBASIC"+CHR$(0)),1005)
CALL Seek(f,22289,0)
CALL xWrite(f,SADD(CHR$(0)),1)
CALL xClose(f)
```



■ **AmigaBasic in action: but it could run so much more quickly.**

RE-ROUTING DOS

When you open a custom screen using AmigaBASIC, or in fact any language, AmigaDOS still sends all requesters to the default Workbench screen. Programs that have not taken this into account are easily spotted because the Workbench screen pops to the front every time a requester is displayed: which is not only shoddy programming, it's also very annoying for the user of your software.

As always, there is a way of redirecting AmigaDOS so that instead of writing all requesters to the Workbench screen, they are instead sent to your custom screen. The code below is a short AmigaBASIC stub that should be included directly into your main program after your custom screen has been opened to achieve the desired effect.

```
LIBRARY "exec.library"
DECLARE FUNCTION FindTask&(task&) LIBRARY

MyProc& = FindTask&(0)
Temp& = PEEKL(MyProc&+184)
POKEL MyProc&+184, WINDOW(7)
```

To restore DOS routing to the Workbench screen, just enter the following line at the end of your program.

```
POKEL MyProc&+184, Temp&
```

And there it is. Simple but effective, professional-looking re-routing. ■

FFS: FAST FLOPPY SYSTEM?

Users who purchased Workbench 1.3 may have been disappointed to find that the new fast file system is one available to hard disk users (look out for 1.4 though!) However, with a little bit of tinkering with the MountList file in the DEVS: directory of your boot disk, FFS can just about be talked into working with floppy disks.

The MountList entry below must be appended to the end of the existing mountlist and provides system information for a new floppy drive device called FF0:.

```
/* Mount Entry to allow use of FFS on floppies */

FF0:    Device = trackdisk.device
   FileSystem = l:FastFileSystem
   Unit = 0
   Flags = 1
   Surfaces = 2
   BlocksPerTrack = 11
   Reserved = 2
   Interleave = 0
   LowCyl = 0 ; HighCyl = 79
   Buffers = 20
   BufmemType = 3
   Mount = 1
   DosType = 0x444f5301
   stacksize = 4000
   Globvec = -1
#
```

Note that the ' # ' is very important.

Unfortunately, not everything is rosy in the fast file system garden, and there are a couple of 'ifs and buts'. Firstly, the fast file system and the old (slow) system are incompatible, so you cannot boot from an FFS disk. Secondly, when FF0: is mounted, there must be an FFS format disk in the drive or else the machine will complain bitterly. To get around this, the first time you mount FF0:, you must instantly format a disk with the FFS using the 'FFS' option on the Workbench 1.3 'Format' command.

J. Forrest
Sunderland, Tyne and Wear

PARLEZ VOUS AMIGA?

If you're lucky enough to have upgraded your Amiga to Workbench 1.3, then you may not have noticed a very handy little addition that enables the Amiga to read text files without having to use the system 'Say' command (although it's still there if you need it).

Workbench 1.3 added a new device handler called 'SPEAK:' that can be used in a similar way to other devices such as 'PAR:' and 'SER:' to allow files to be redirected to them without the hassle of having to initialise data structures etc. The most common application for this is for CLI users who wish to have a text file audibly read to them (a bit like having a proof reader on a disk!). For example, to copy a text file called 'Fred' to the SPEAK: device, you would type:

```
COPY Fred SPEAK:
```

or alternatively:

```
TYPE > SPEAK: Fred
```

AmigaBASIC users can also use the SPEAK device as an alternative to the standard 'SAY' and 'TRANSLATE' commands, to allow immediate access to the speech synthesiser. All you would do is to open a channel to the SPEAK: device in the same way as you would open a channel to the 'PAR:' or 'SER:' devices using the following command:

```
OPEN "SPEAK:" FOR OUTPUT AS #1
PRINT #1, "HELLO THERE"
```

Ollie Alderton
Bath, Avon

WIMMING SPOOL

When using the CLI, you don't want to have your CLI window tied up while a long text file prints out. Thankfully, with a multi-tasking operating system such AmigaDOS, it is fairly simple to implement a printer spooler that will print out concurrently.

The batch file below will (surprise surprise!) do the job very nicely thankyou. As well as allowing you to print in the background, the batch file also allows you to send a file to the printer as a hex dump using an extra 'HEX' parameter.

To use it, all you have to do is to enter 'Execute Spool <filename>' and press return. To access the extra hex option, you would have to enter 'Execute Spool <filename> HEX'. Note that Workbench 1.3 users can make the batch file executable by using the Shell environment and the 'Protect Spool +S' command.

F. Moane
Belfast, N. Ireland

```
.key filename/a, typ/s

if not exists <filename>
     echo "File Not Found"
     quit
else
     copy <filename> to ram:<filename>
     if <typ> eq "HEX"
     run > NIL: type ram:<filename> to PRT:
opt h
     else
     run > NIL: type ram:<filename> to PRT:
     endif
     delete ram:<filename>
endif

echo "Printing file in Background"
quit
```



■ The Star LC-10 printer: while it's working, you can be too.

FIFTY BEER TOKENS UP FOR GRABS!

Your country needs you! Or to be more precise, Workbench needs you. We want tips on any aspect of using the Amiga, whether you're a Sunday afternoon BASIC programmer or a late-night machine code hacker, we want to hear from you! Even if you can't program for toffee (and are justifiably proud of the fact), we want tips on using (or abusing) the Amiga and it's software.

How will we reward you for your monumental efforts? How does some real heavy bread, like 50 big ones sound? Send your words of wisdom to:

WORKBENCH, AMIGA FORMAT, 4 QUEEN STREET, BATH, BA1 1EJ

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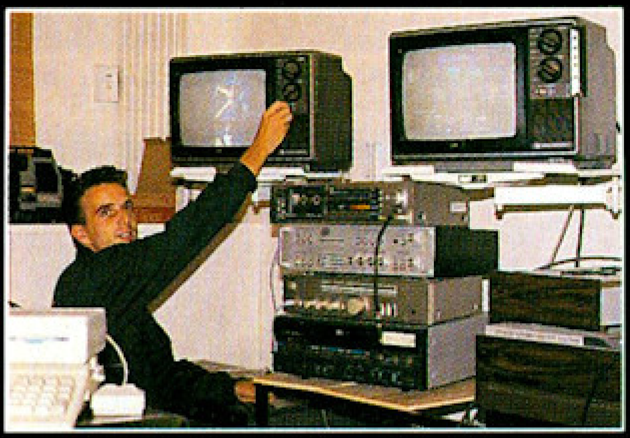
VISIONARY

Steve Haley, who will be providing our video coverage, is the mastermind behind The Vision Factory. DAMIEN NOONAN chatted with him.

The Vision Factory, in Zetland Road, Bristol, originally covered many kinds of Audio/Visual work including conferencing and projection, but now concentrates on video production. Its current major project is a series of documentaries for a Middle Eastern industrial firms. Although the stuff is filmed on 35mm by international crews, it is then transferred to video in London and Steve is responsible, alongside the director, for all post-production work: editing the pictures, and then adding computer graphics, titles and sound.

The computer graphics are exclusively produced by specialist firms on high-end dedicated machinery, such as the £1.5m Symbolics or Quantel Paintbox graphics systems currently used in many a TV ident. "Even Kings have logos", explains Steve, "and if they're going to, then they might as well have the business."

Similarly sound, both effects and narration, is produced through expensive chip-based hardware. No synchronised sound is recorded on location: instead, the best possible example of a particular sound (say, for instance, a bulldozer



■ Steve Haley hard at work on some basic editing in his Bristol offices.

moving) is sampled and then looped or repeated as necessary to make it fit. This also allows doctoring to improve the quality of the sound. A Casio FZ1 keyboard takes the samples, and they are then transferred to an Audiofile and literally played back from the keyboard to fit in with the picture. A gadget called a Synclavier is now available that can alter the duration of a sound without changing the pitch, which will allow the voice of a narrator to be altered to fit a required space: particularly handy for squeezing in an overdub of a foreign-language translation into a less compact language than English.

In competition with such advanced hardware, even the Amiga can become lost. However, Steve admits that relatively cheap Amiga products even now can "give a taste of similar applications that do cost a fortune." Partly he blames lack of investment for the slow development of the Amiga's support in this area, believing that companies make a faster buck knocking out games: partly, he acknowledges that professionals such as he are reluctant to believe that one single flexible piece of hardware can reproduce the results of expensive, dedicated, specialist kit.

Steve bought himself an Amiga A500 with the insurance money when his mountain bike was stolen, and his main uses for the small machine since have been as a word-processor, for invoicing and basic accounts for the business, and – of course – for playing games. As a great fan of *Carrier Command* and *Leaderboard*, and having been somewhat disappointed by *Populous*, Steve is clearly excited by the potential of the computer to create its own internal realities in much the same way as a film or a video does, and consequently loves games in which the player becomes deeply and credibly involved.

Steve stresses that the upgrade path of the Amiga is going to be of great significance, but he has yet to fully explore the possibilities of a larger ▶

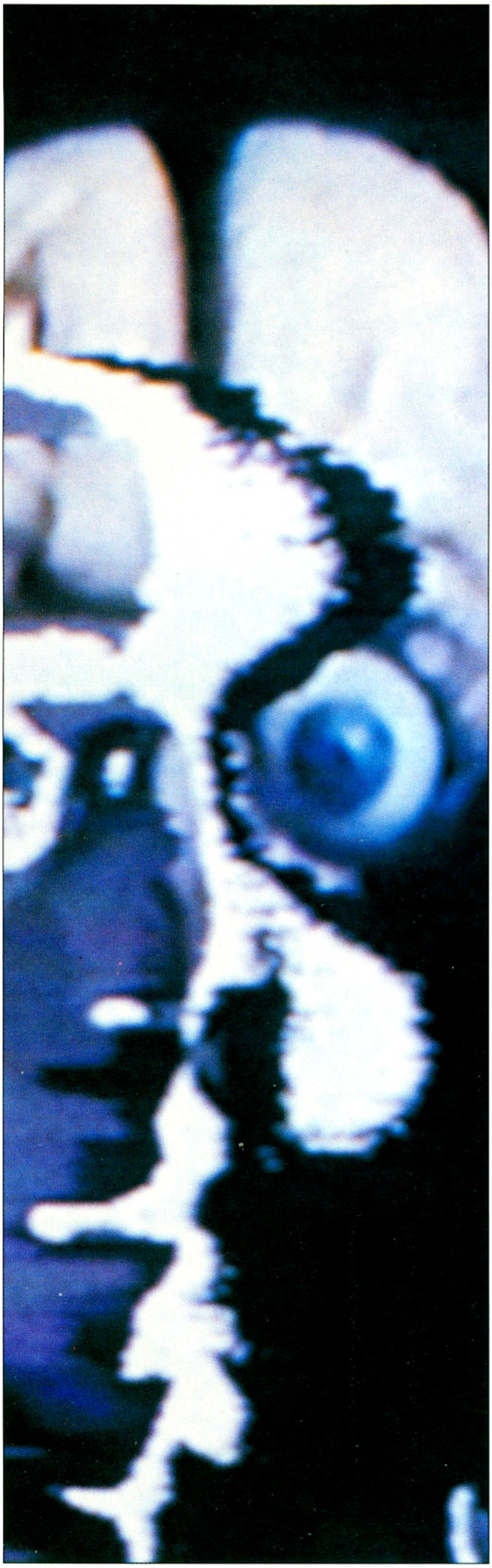






POP GROUP

You may soon see it on The Chart Show and MTV: the video features the face of Mark Stewart, erstwhile leader of The Pop Group, his face distorted as many weird and wonderful images are projected onto it. This remarkable low-budget affair was put together by Steve Haley, the man behind production outfit The Vision Factory in Bristol.



Amiga in his work as a video producer. He has plans to start with rough sketches or storyboards, perhaps using *DPaint III,* for the major animation sequences that he contracts to specialised companies: and eventually to produce key frames, around which the animation will be worked, for himself. Already, he admits that many of the 3D ray-traced demos on the Amiga are showing more imagination and polish than can be achieved using the 'serious' heavyweight professional gear.

If nothing else, remember this: given the right attitude and imagination, Steve himself has proved that, even with minimal amounts of the vital ingredient of all video productions, money, you can simulate what the big boys are doing, and even go one better. The images on this page were all produced with the aid of little time or cash. With the Amiga's help, Steve says, you can "do things that look as if they're real." And perhaps that's what it's all about. ■



■ These images go with the hippest dance music, from Smith and Mighty.

HOME STUDIO

Steve Haley finds one package containing everything but the kitchen sync...

The makers of *Video Studio* make a number of ambitious claims ranging from the comprehensiveness of its facilities to the ease of use and the straightforward nature of the hardware needed: so let's start with what is actually required to use this package with any real purpose in video programme making, at any level.

A meg of RAM and two disk drives is assumed, the packaging states cheerfully. However, it should be stressed that on the A500 a memory expansion with a real-time clock is definitely preferable, because many functions use the clock. Using a memory expansion without a real-time clock could extend the start-up procedure by quite a while, particularly as there seems to be a bug at the start which could leave the beginner in some distress. This can be overcome, and providing the clock is correctly set there should be no more specific problems. The A1000 and A2000 will run *Video Studio* but, again, you may need to re-program the start-up sequence before you do.

A Jaguar without Petrol

The next claim is that no previous computer experience is required. No previous experience required??? Even though the keyboard-driven menu interface is very friendly, I can't help but feel that this is an exaggeration. Even less credible is the assertion that the program can be used without a genlock. Certain parts of a Jaguar V12 will operate without petrol, and certain parts of the *Video Studio* will operate without a genlock: but neither of these prospects offers a fraction of either product's potential. Somehow, though, I can't see Jaguar describing petrol as non-essential, so let's come clean. A genlock with the potential for foreground and background modes is necessary to use a very large part of *Video Studio.* Two video machines, or one video camera and one video machine, are also required to produce and record results. A basic art package is also highly recommended (see below for details). This information is not intended to worry potential users, but to help avoid disappointment and frustration.



■ The main screen of the program illustrates the range of facilities that are all readily available from the keyboard menu.

Video Studio has been developed exclusively for the Amiga as a complete video post-production utilities package, not as just another video titler: it also provides a range of functions that can be of use in many different types of video production. The manufacturers ZVP are trying to sell to the professional market ▶

and anywhere else that videos are being made: whether it can provide high enough quality for professional post-production is doubtful, but that doesn't mean it can't be of use in low-end applications.

Time for a Title

The *Video Studio* is not just a titler, but this doesn't mean that the titling has suffered as a result. There are 4 main titling programs with 20 good quality high res (interlaced) fonts and user options for bold, italic and underline also there are outline and drop shadow rendering options. A sequence titler allows multi-font, multi-page titling, and there is a scroll titler with relatively smooth vertical and horizontal scrolling. The scroll titler also has options for some interesting masking effects.

The subtitler, with various display options, is impressive and easy to use, although feature-length professional applications may eat up memory. The subtitles can be against a solid, transparent or semi-transparent box. Inputting subtitles is fairly straightforward, though things can get a bit messy near the edge of the window. Finally there is a captor program, a title screen program which is useful for a variety of general requirements and when used with IFF graphics can be useful for scoreboards, map overlays and so on.

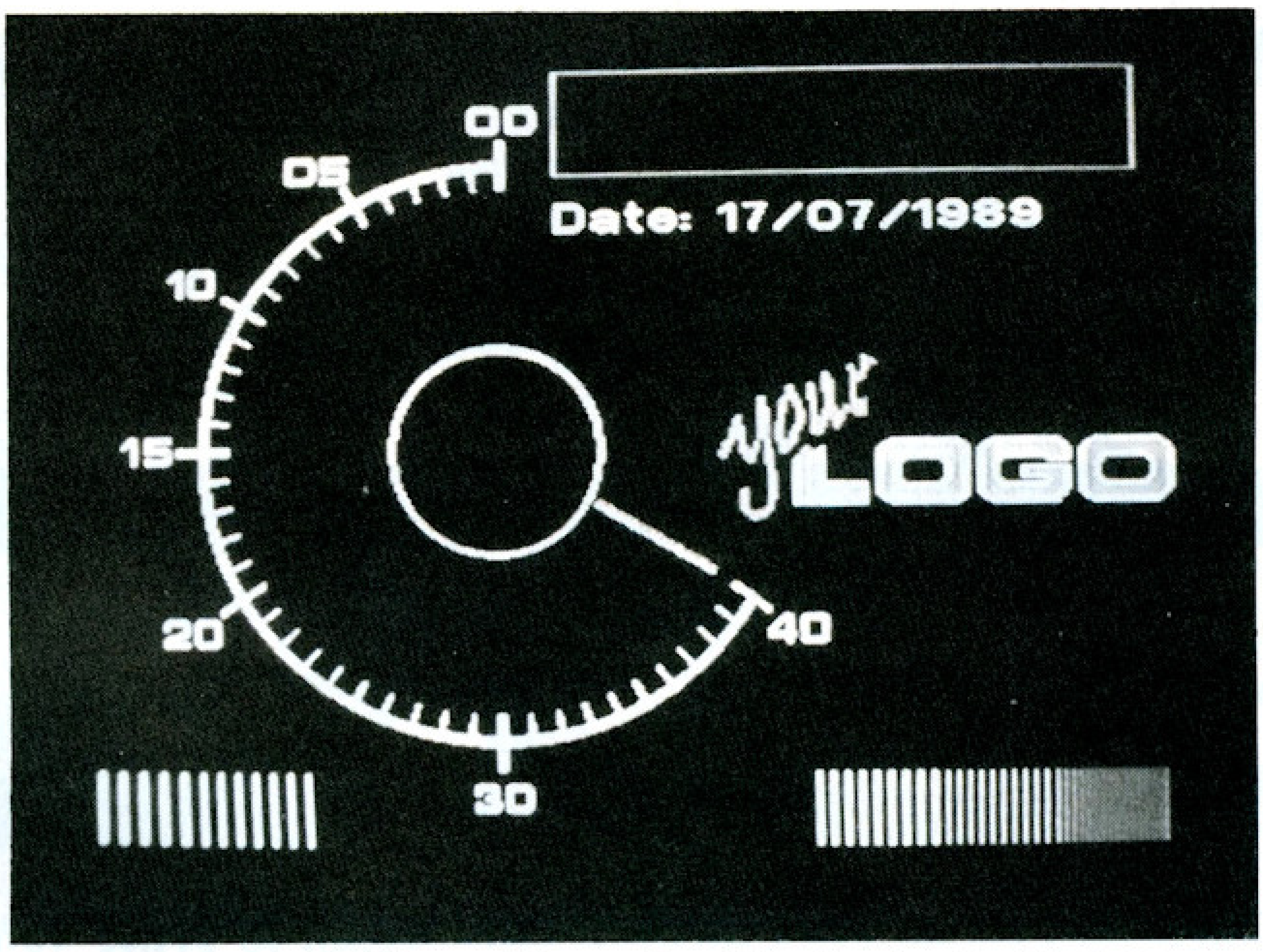
Colourful Imports

Logos and other graphics can be imported into various parts of *Video Studio* from any IFF paint package that is capable of working in PAL interlace and overscan modes. In practise, the possession of at least *DPaint II* is essential as *Video Studio* has no brush or picture edit facilities. Fonts too may be imported and exported using other packages. The *Video Studio* fonts are clean and useful. The combination of high res fonts in low res menus is very thoughtful and eases the strain on those using low res monitors, probably most of us. On the whole the handling is simple, all through the keyboard, and results are impressive.

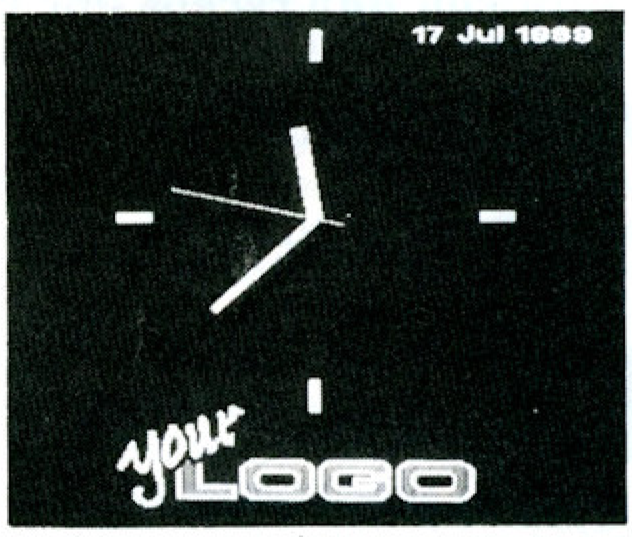
Special Effects

Video Studio contains a number of 'Graphic Special Effects'. There is a selection of Wipe/Dissolve patterns for use with genlocked video, but here the range of commercial applications narrows as quality and cost play their parts.

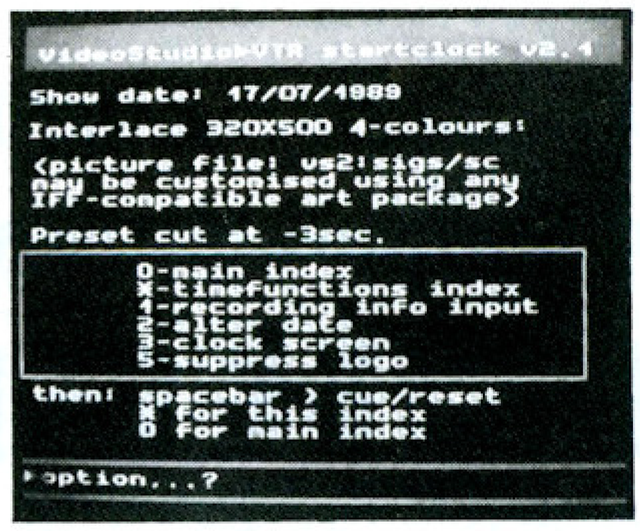
The likes of low-budget industrial and celebration videos can be reasonably well served but they don't look good enough to go further. That is no slight on low-budget wedding videos or on *Video Studio* either, because for the price I can see the mixing patterns as a welcome bonus for many users. They are on the messy side, though, and I had to spend some time in preferences centring and generally improving the screen position. But these are an interesting start nevertheless, and deserve separate development.



■ The countdown clock is one of the most useful and professional features.



■ The broadcast clock: very Channel 4.



■ The clock set-up menu: one of many.

Other effects include several fairly sketchy border patterns or frames: binoculars, rifle sight, camera viewfinders. Colleges, training facilities and the home video maker might find something useful here. Personally I found them pretty unconvincing and almost out of place.

The Picture-in-Picture effect allows you to overlay IFF pictures over video. As the IFF pictures could be digitised or frame grabbed there are some good creative possibilities here although they are likely to require quite a bit of time, memory and again some additional hard/software.

Clocking up a Test

Under the title Time Functions there are a number of useful clock options. The 40 second start-clock which counts down with an automatic fade at 5 seconds or a choice of several other counters over video. (It's not time code, but it could be useful). There is also a conventional analogue station clock which can, like the others, be customised with logos.

Video Studio has a set of several different test signals – colour bars, test card, greyscale – and although these are definitely not broadcast spec, they will be of use in training or low-budget work.

Conclusions

Video Studio is not a broadcast post-production tool and I don't think that it's pretending to be. It is a useful collection of imaginative and diverse tools. It is ideal for use in video training or education, or for use by a wide spectrum of video producers, both amateur and low-budget professional. Companies with in-house facilities could easily use it.

Despite the apparent high cost of the kit you might need to use with it, if you compare the cost of the video hardware required to provide the same basic options *Video Studio* is very good value for money. This version seems a little bit roughly put together in some respects, but for enhancing both the production process and the finished programme the *Video Studio* does work and is a good step forward in satisfying demand rather than merely trying to create it. ■



VIDEO STUDIO
£99 ■ All Amigas
■ 1 MB and 2 drives required.
Maze Technology, 20 Woodlands Rd, Walthamstow, LONDON E17 3LE
01 520 9753

A TIP FROM SIDEWINDER

Sidewinder's Tip: A500 memory expansion without real time clock. Start-up sequence should report:
No REALTIME CLOCK??
Set time/date from vs1 PREFERENCES next...

However, should you get something like:
Setclock Failed return code 12

Then you should type:
Assign sambasic: vs1:
Failat 40
Endcli > Nil:

GAME BUSTERS

The cheat machine gets its cogs turning once again to bring you the latest and best hints and tips to get you to that end screen. Have you any recent tips you could pass onto others not quite so on-the-ball as yourself? You could win £50 worth of software for your efforts, so send 'em in to: Gamebusters, Amiga Format, 4 Queen St, Bath, BA1 1EJ. Pronto!

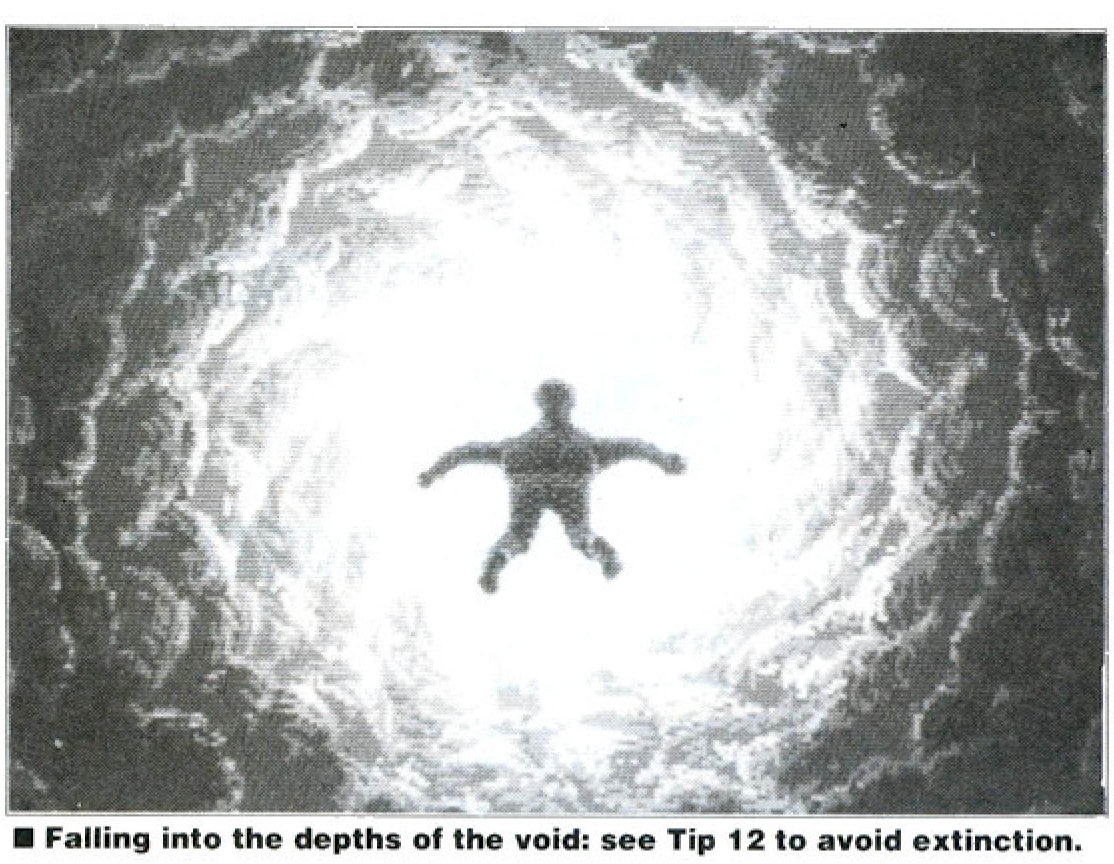
WICKED

Not only are we bringing you some tips, they're straight from the programmers, Binary Vision, so there's no-one better to give you the definitive playing guide.

1. Quick on the Spore: always kill evil spores (the red flashing stars) as they are the evil portals of the (very near) future. Leave them be and you'll always be lagging behind the forces of Darkness. Listen out for the distinctive sound effect as they come into existence.

2. Establish a 'Beach-Head': select an area of the screen which is (comparatively) easy to defend and establish your 'Beach-Head' here. This is what you'll be using a base to expand across the screen. Exactly where you set up your stronghold depends on the specific screen, but certain areas, such as corners, have a natural defensive advantage.

3. Keep a 'Springboard': As good spores can only be dropped on existing good growth to create a new portal, it's a good idea to protect a few isolated growths on a distant part of the screen to the 'Beach-Head'. Good spores can be settled (and good portals created) on this 'Springboard' to attack away from the beach-head once it has been secured. Failure to do this often means that you have gained the upper hand but don't have time (keep a watch on the red bar) to grow right across the screen and secure victory.



■ Falling into the depths of the void: see Tip 12 to avoid extinction.



4. Einkreisungspolitik (phew!): an expression used by Bismark meaning 'encirclement strategy' or, to you and me, pincer movement. Surround the enemy with good portals and make him fight on two or more fronts (divide and conquer).

5. When you're getting good, skip the first two constellations at the start. You can come back to these later to get easy (!) extra lives and have a brief respite from the battle.

6. Scoring: the secret to mega-scores is completing the last few constellations (easier said than done) but there are a couple of bonuses throughout the game:
A. A smallish bonus for shooting and destroying special power crystals. If you don't want the power it gives you, rack up a few points by obliterating it.
B. If you've got all four extra lives stars lit up in the screen corners, collect another extra life despite the fact you don't really need it to gain a big bonus.

7. Kill off pockets of evil growth close to your good portals. Otherwise, if you miss an evil spore, it might settle close to your portals and overrun them. Evil spores can only settle on existing evil growth.

8. Careful shooting: shoot out a pathway of growth from your good portals to his bad ones. As good growth can only cover dead evil growth, it is channelled between areas of living evil growth towards his portals. Don't shoot evil growth that's not a threat as it wastes time and diffuses your attack.

9. If you concentrate good portals in one area, huge good growths will be created. These fall quickly to evil forces if they come under attack, just as huge evil growths can be shot away and grown over rapidly by good growth: so take care.

10. All portals produce a limited amount of growth. Once they have done this they can continue sporing but stop growing. Look out for evil portals which have exhausted their growth capability: they are far easier to knock out.

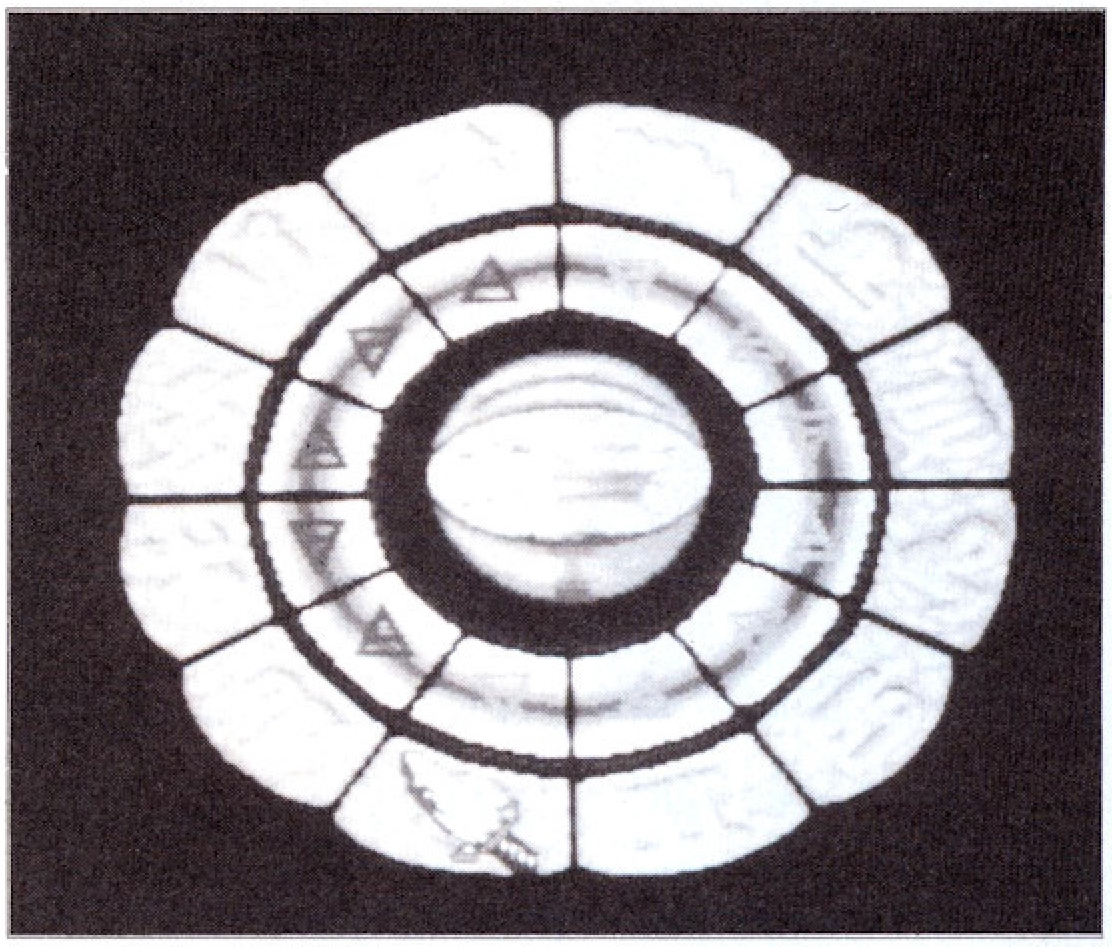
11. When the drum/heartbeat

begins, to indicate that time is short, don't be distracted. If you concentrate you can often finish off a daunting screen, as many of the evil portals will have used up their allotted growth. Should the timer run out and the screen fill up with evil portals, don't sit back and wait. Remember to protect yourself against the Guardian or you'll lose another life to him in the second or so before you actually lose the screen.

12. Don't send the Guardian back to Pandemonium immediately day breaks, as he will return as night is falling. Knock him out as day is about to turn into night so you are shot of him when he's at his most dangerous.

13. It's one thing to learn to read the cards and know what they mean but quite another to really understand them. Double fire or triple fire (with the extra-fire stars) doesn't go away until you lose a life but don't pick up another power such as invulnerability or multi-fire as these will replace your extra-fire stars. Extra lives can be collected without losing these stars. Multi-fire is useful for clearing away swathes of enemy growth (especially if you're in it up to your neck) but it prevents you adopting the careful shooting tactic as described earlier. There are a number of tricks you can play with the cards:

A. One card (which shall remain nameless!) inverts the position of your strength (the white arrow on the snake/bird dial). reduce your strength to near minimum before picking it up and you're back to full strength. But be careful not to go too far and kill yourself (sounds stupid, but it does happen) and make sure you catch the crystal before the maggot pushes it off the edge or you'll feel a right bozo.



■ Choosing which constellation to play: see Tip 5 for some advice.

B. The Aladdin syndrome – what? Beware collecting extra-fire stars. Generosity has its limits.

C. The Maggot and the Moon. During day, on screens with the Giant Maggot, collect the moon icon and rush behind the vermin. This pulls it towards you, slowly enough to blast it back to Pandemonium.

14. The Guardians: There are seven of these, here are some tips on three:

A. Firefly – It's easy to avoid the Firefly's servants, all you need is rhythm. They fly out in a pattern, cyclically: thrice diagonally followed by once straight.

B. The Devil – The Devil's red globular servants are the meanest of all so give yourself extra space to shoot them out as they close in much faster.

C. The Maggot – at first the hardest adversary, but the easiest once you understand his ways. He always appears at the same vertical position as you and moves from left- right. During daytime, wait until he reaches the right hand side of the screen and is disappearing, then move to an open space and fire to the left – he will appear and move right into your attack. The Maggot will duly appear at the same height as you on screen, and you can return to your original position.

15. The growths and intelligence: at first, evil growths grow randomly but as play progresses they get smarter. Their level of intelligence is indicated by their shape:
Round = stupid/random growth
Diamond = slightly intelligent
Cross = intelligent
Octagonal = highly intelligent

On later levels it is essential to use the evil portals' own intelligence against them. If you get within a few growths of an evil portal it will revert to a simple defensive strategy of growing towards (and trying to knock out) the nearest good portal. Plant good portals on all sides of intelligent evil portals, gradually dropping them closer. Back this up with steady attack fire against the portal and you should be able to overrun it. Another approach is to place a decoy good portal to one side of the target portal then amass many good portals slightly further away on another side. Fire from the decoy side to protect it against being overrun while the other massed portals attack the evil portal from the rear.

16. On later screens there are hidden High Power Portals. On the leftmost star of Taurus, for example, the top left good portal is growing three times faster than all the others on the screen, making it an obvious choice for a beachhead and certainly one to protect. But watch out, there are evil HPP's too and the only way to spot them is to keep a careful track on what damage they're doing.

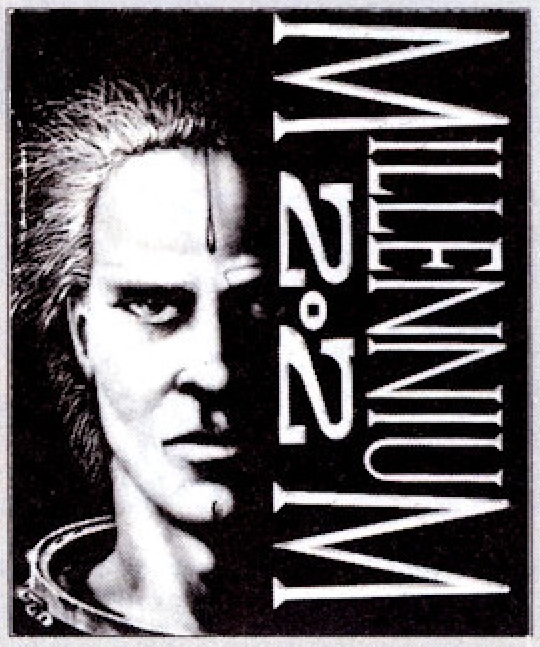
And there you go! By the way, has anyone got as far as (and completed) Sagittarius (without pokes)? If you have, the Binary Vision lads would like to hear about it, so write in. ■

MORE MILLENNIUM...

Here's a handy tip to help you start out.

When you start making your solagens and have a Mk2 or above, you will start to get attacked. Instead of going straight to the defence dome go to energy and shut off your most powerful solagen and change it for a Mk1. Now go to the defence screen and deal with the attack. At the end of the attack you will find that the solagen has been destroyed so go back to energy and put on your most powerful solagen. Make sure you have a few spare Mk1s so you can change as soon as you're attacked. By using this tip you'll not only save time, but will have a constant power source for the really big production items, and if you go straight to defence there's always the possibility of letting the solagen become damaged even if you stop the attack.

P Rance, Canvey Island



FOOTBALL DIRECTOR II

Short of money? When in the main menu, press CTRL and C together to stop the program and enter:
AI=AI+500000 (RETURN)
CONT (RETURN)
Now look at your cash – don't give yourself too much though, because the directors will take some if you have too much. Want to win some games? While playing a match you can add to your score by pressing CTRL and C to stop the match and entering:
R=R+S (RETURN)
CONT (RETURN)
And if you want to stay on 'easy' level, press CTRL and C on the main menu and enter:
AB=2-3 (RETURN)
CONT (RETURN)



Then go to the change level section and you'll find you can go back to 'easy'. Remember, when a player's 26 or under you only need pay him £1 per week! Should you wish to leave a club, sell 100,000 shares and the board will sack you. Go to offers/negotiations and choose yourself a new club.

Ian Brooks, Birmingham

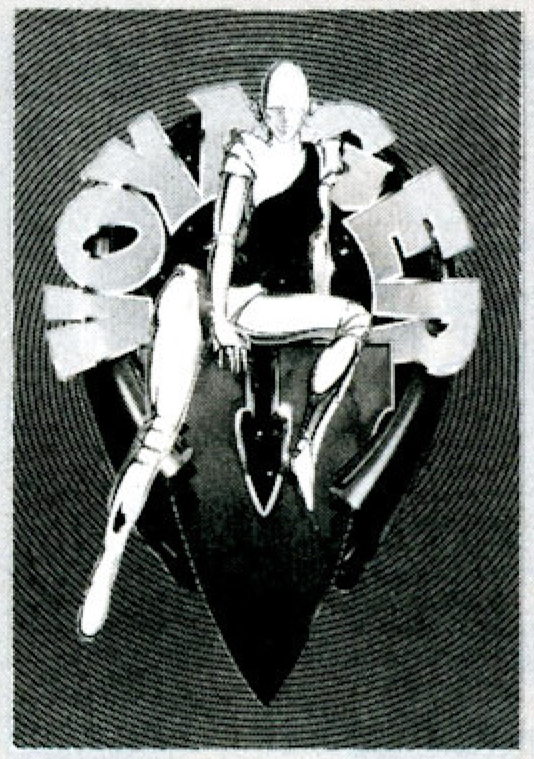
DENARIS

Having problems getting through this superb shoot-em-up? Type in this listing and make life a whole lot easier for yourself.

```
10 REM POKE FOR DENARIS
20 CHECK=0
30 CHEAT=253952&
40 FOR N=CHEAT TO 254106&
STEP 2
50 READ A$
60 A=VAL("&h"+A$)
70 CHECK=CHECK+A
80 POKEW N,A
90 NEXT N
100 IF CHECK<>545742& THEN
PRINT "ERROR IN DATA":END
110 PRINT "INSERT DENARIS
DISK"
120 PRINT "THEN PRESS ANY
KEY"
130 A$=INKEY$:IF A$ "" THEN
130
140 CALL CHEAT
150 DATA
2C78,0004,207C,00FE,88C0,43
F9,0007,1000
160 DATA
303C,0145,12D8,51C8,FFFC,22
FC,DBFC,0000
170 DATA
22FC,007E,4E5D,32BC,4E75,70
04,D139,0007
180 DATA
1132,D139,0007,113E,41F9,00
07,1042,30FC
190 DATA
203C,20BC,0007,0000,4EB9,00
07,101A,41FA
200 DATA
0008,2948,00A2,4EDA,41F9,00
02,83D8,43FA
210 DATA
0012,30FC,4EB9,20C9,30BC,4E
71,4EF9,0002
```

Andrew McRobbie, Abernethy

VOYAGER



Hands up all those that want infinite fuel, energy and all the equipment? Good, type in the listing and Bob's probably one of your close relatives.

```
10 REM VOYAGER CHEAT
20 CHECK=0
30 CHEAT=459108&
40 FOR N=(CHEAT-30) TO
(CHEAT+30) STEP 2
50 READ A$
60 A=VAL ("&h"+A$)
70 CHECK=CHECK+A
80 POKEW N,A
90 NEXT N
100 IF CHECK<> 204889& THEN
PRINT "ERROR IN DATA":END
110 PRINT: PRINT "PLEASE
INSERT THE VOYAGER DISK"
120 PRINT: PRINT "AND THEN
PRESS ANY KEY"
130 A$=INKEY$:IF A$="" THEN
130
140 CALL CHEAT
150 DATA
41FA,0010,347C,4EF9,0130,294
8,0132,4EEC
160 DATA
000C,33FC,4E71,0002,01E4,4E
F8,0800,2C78
170 DATA
0004,207C,00FE,88C0,43F9,00
07,0000,303C
180 DATA
0145,12D8,51C8,FFFC,4EF9,000
7,001A
```

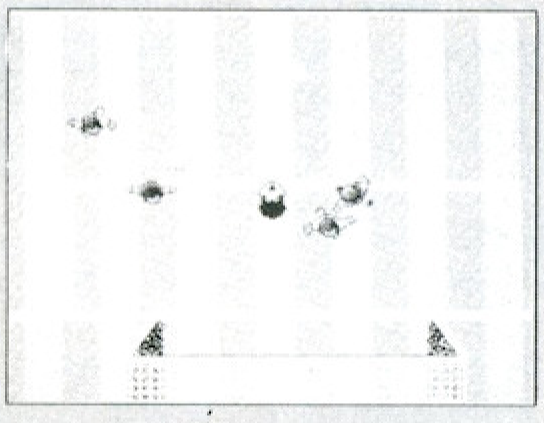
Press W and then the DEL key on the options screen - this brings up the fourth option, the cheat.

Ean Blackwell, Chatham

MICROPROSE SOCCER

Keep banging them goals in with these tips.

First, change the banana kick power to high on the control panel. When playing the game, always pass to the forwards with a full-powered kick to NW or NE depending on where you are.



■ **How *not* to save a goal...!**

Once you have the ball, try and run at the goalie's box at an angle (either NW or NE) and blast the ball in at full power from just outside the box. Then again, you could try getting to the edge of the goalie's box and wait for him to rush at you – then just move as far right as possible and position yourself for a banana shot into the back of the net. Also when it's raining and your opponent is running at your box, run directly behind him and do a sliding tackle – hopefully the ball will go skidding into your keeper's safe hands. And, if you get the chance, when your opponent is attacking, move your goalie out to block him and grab the ball – saves a heck of a lot of goals that one!

Dickon Channing, Huntley

FOFT

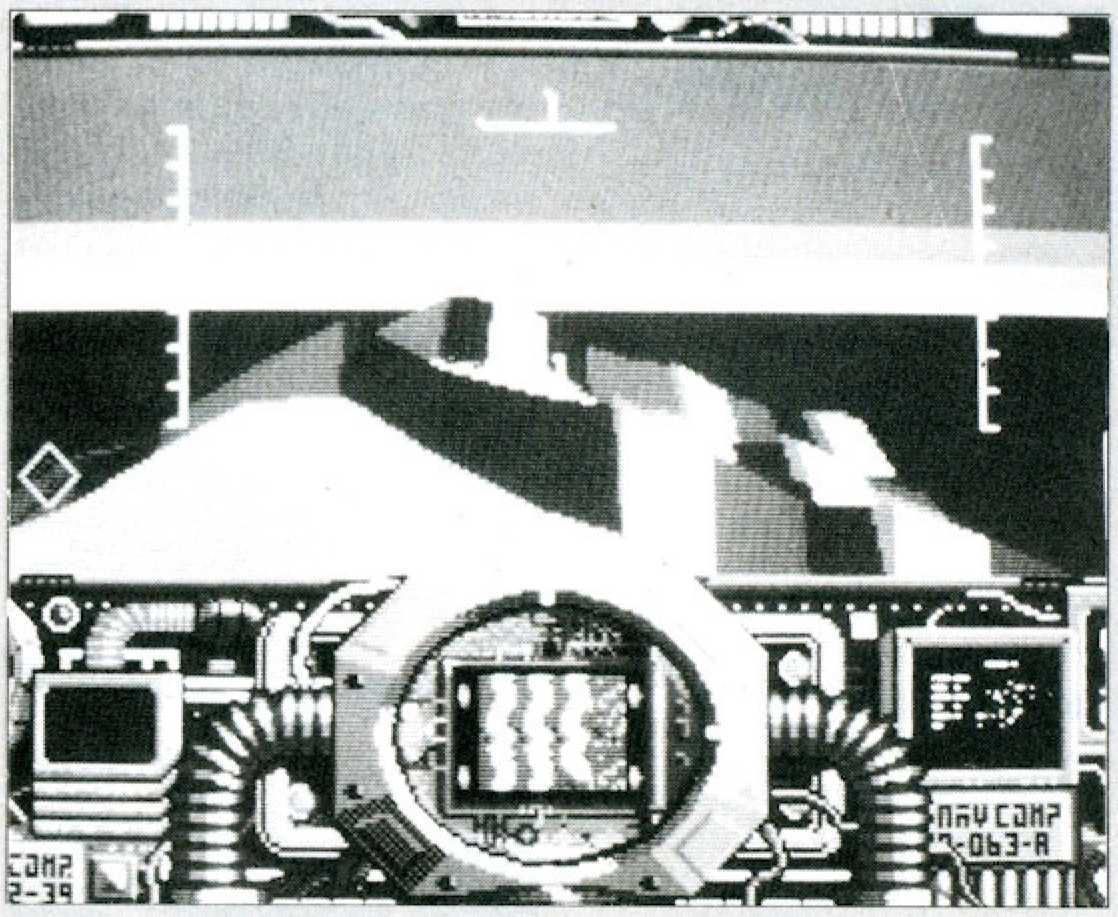
Fancy loads of credits? Follow these steps.

1. Load game and press F8, then Net to get access to Network. Then HELP (return) and your trading name. When asked for a new name, type 'Y' and note the code sequence.
2. Exit Net (type Q), then QUIT (return), then BACKSPACE to exit station. Locate a friendly ship and lock on.
3. Press F8, then Net, then your code then 'T'. If it's friendly you'll establish transmission.
4. Ask trader if he's selling (be persistent!)
5. When he offers something, offer him 1 credit then LOGOFF.
6. Hit 'T' again and ask again if he has anything to trade – persist until he does, but don't barter.
7. When he has offered, hit any Alpha key (a-z) until he asks if you want his goods or not.
8. Now hit 'Y' and transaction will be completed.
9. Check your credits by hitting 'I' and space to see what goods you have in the hold. Any problems, re-establish contact and go back to Step 5.
10. Repeat Step 5.
11. When you make your bid, make it high (5,000) credits.
12. Trader will inform you that you don't have enough credits and exit.
13. Re-establish contact and ask if he wants to buy - make sure you DO have something.
14. He'll ask for confirmation, just press 'Y'.
15. When he asks how much say 10 credits.
16. When transaction is complete, check inventory –especially your credits!

Jason Bennett, Breaston

YAHOO! FREEBIE GAMES!

Phew! What a scorcher! And we don't mean the weather, Brian! Lawks a lawdy my postman's on fire! Why? Because he's had to rush around dishing out all these free games to the good spirited chaps and chapesses who've sent in their maps, tips and pokes to GAMEBUSTERS. Ian Brooks, Dickon Channing and Jason Bennett are over the moon at the moment, but when they come down they'll each be able to start playing with their £50 worth of free software – 'cos that's their prize for sending in their cheats. Good innit? And if you want to cash in on this bonanza, all you have to do is send your contributions to GAMEBUSTERS at the usual address.



■ **Coming down to earth in *FOFT*: but to stay high and dry, see above.**

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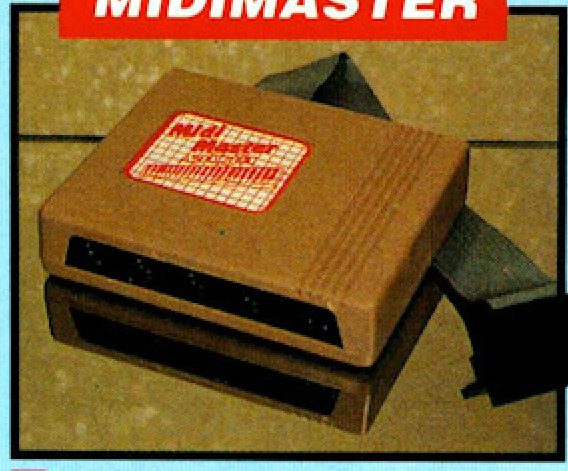
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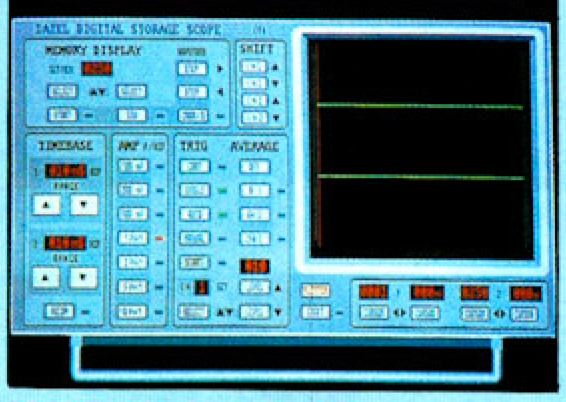
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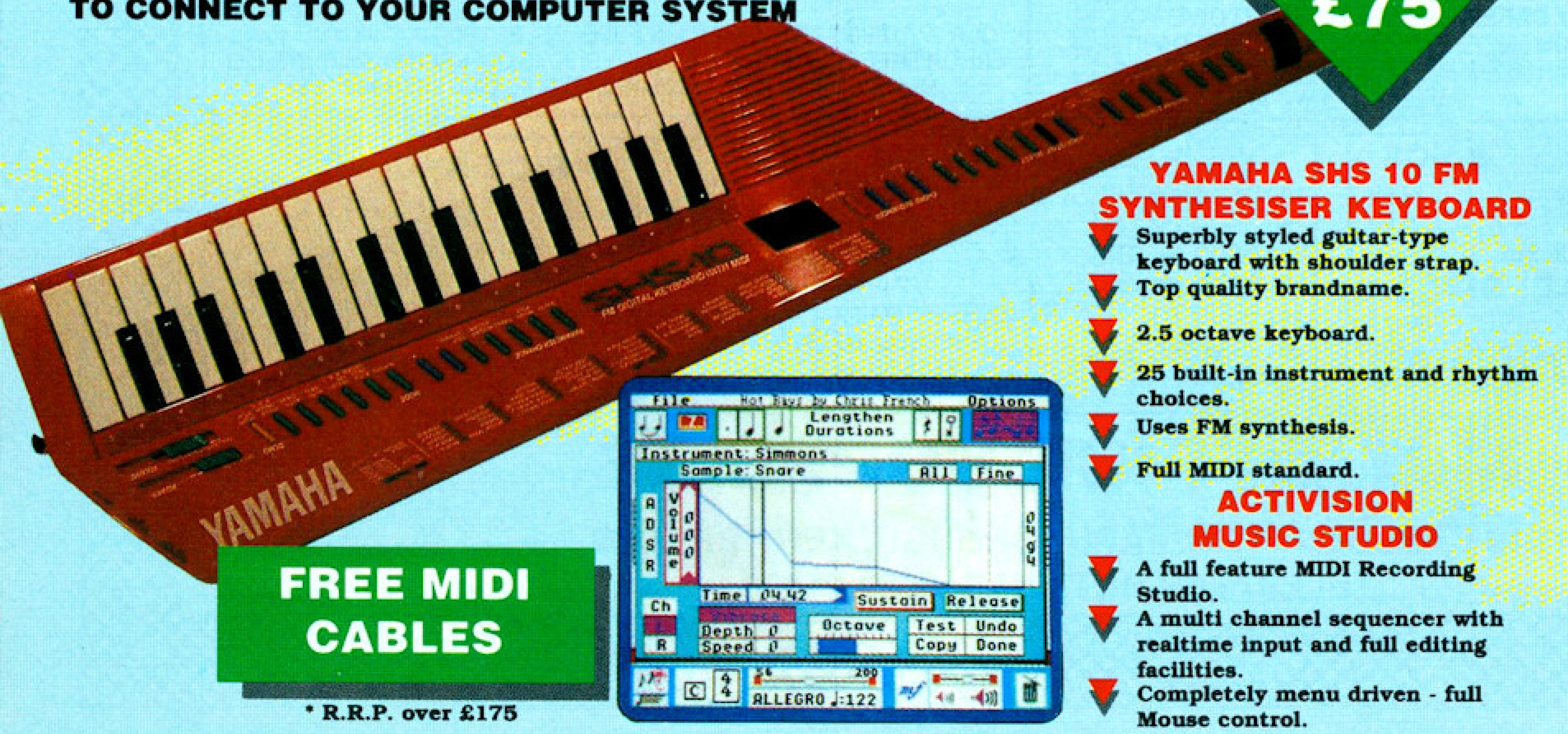
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SEQUENTIALLY

"To Sequence... To arrange two or more things in successive order... an arrangement of notes or chords repeated several times.."

So the dictionary has it. But how does this apply to the musical ambitions of an Amiga owner? In order to give you a run-in to the world of sequencing it is perhaps best that we give you in these pages a crash course in sequencing. If you feel that you are pretty well clued up on this then skip a few paragraphs until you come across something that you don't understand. If, however, you are a complete novice start right here with.....

Sequencing: A Duffer's Guide

Just as a word processor is capable of moving text about with immense freedom, so a sequencer is rather like a 'music processor'. Chunks of music of greater or lesser proportions can be shuffled about, placed anywhere, shifted up or down in pitch and generally interfered with. There are two types of sequencer: step-time and real-time.

Step-time is usually a rather laborious process where you assemble the score note-for-note on screen. This is usually achieved with a displayed palette of notes from which you pick the one you want and place in the relevant position on the displayed stave.

This frequently puts a fair amount of people off the whole idea, since it does rather presume that you can read music and unless you are copying the music from a score it also means that you need to work out the note values in your head.

Real-time is much more user-friendly, particularly if you are musically illiterate. You just play the piece and the program records every action you make. The one flaw in this is that you really need to use MIDI as a communications language to external instruments – if you've ever tried playing serious music on the qwerty keys, you will know exactly what I mean.

With a real-time sequencer the idea is that it should be your servant: just like a word processor captures your thoughts on the wing (ha ha!) so the sequencer notes down your every passing fancy and lets you firm it up into a constructive piece of music. Once recorded in data form you should then be able to chop it about, fix up the notes that are out of time or just simply wrong, and then fix it into an arrangement.

Sources and displays

With Amiga of course we have two types of sound sources. The external tone/sound generators accessed via MIDI, and the internal voices, usually in the form of samples. Any sequencer for the ➧

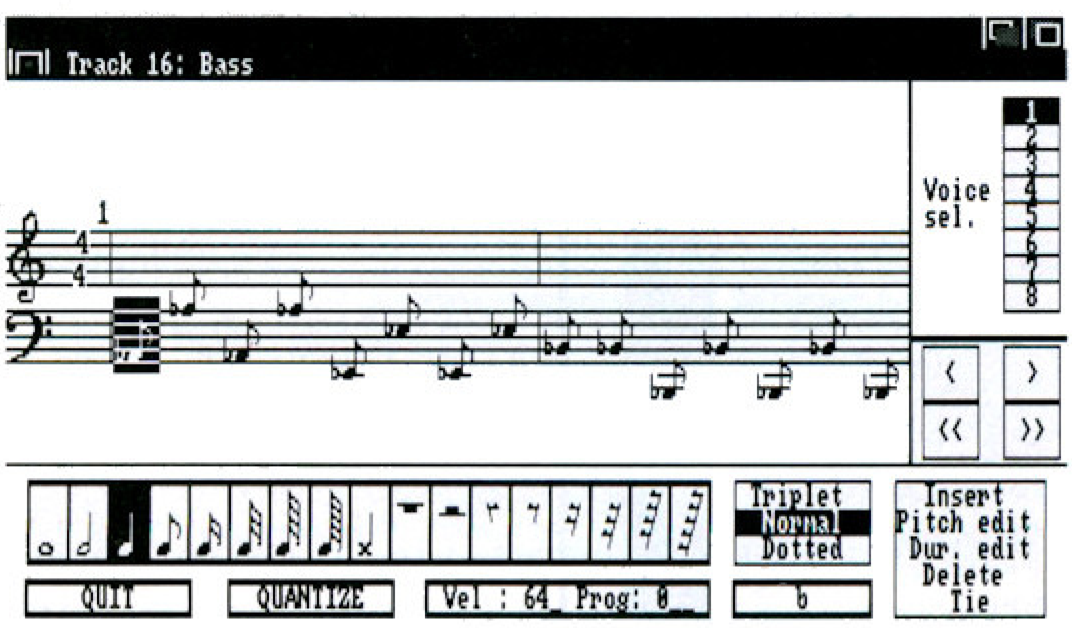
TRACK24;

DIGIGRAM/MUSILOG ■ £75.00 ■ Soundbits: 021 733 2063

'Allo 'Allo. Ze French stump up a pretty decent sequencer for the Amiga and jolly colourful it is too. Not withstanding that, it is quite comprehensive with several unique features, especially considering the price.

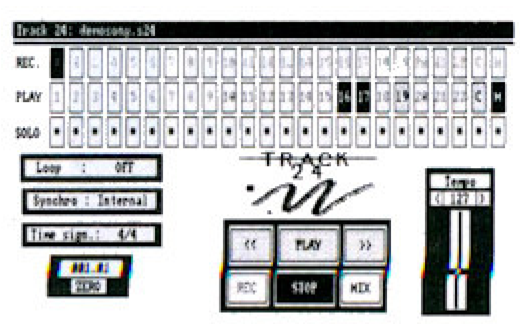
As you might guess it is a 24-track sequencer. The main screen has the tracks running across the top with highlighted options for either record or solo, in which case all the other tracks are muted. Tracks 23 and 24 have special functions that they can also perform. Track 23 is subtitled C, which stands for chords. If you put your backing chords on this track the program will actually recognise the chords you have put in. However it will also reverse the process, so you can enter chords simply by clicking on the comprehensive menu of chords provided. Quite unique this, and it could prove useful if you are copying from sheet music, if a little laborious. The other track is monophonic (one note at a time) and is for any lead lines or main melodies which might benefit from this kind of treatment.

The program is very simple to use and has copious functions above and beyond the tune of its price. To whit: track mixing and demixing, copying and chaining tracks (arranging), punch in/out, transposing either individually or generally, editing of tracks using traditional notation, memorizing the MIDI configuration of any set-up, step-time input, and defined block transposition with cut, copy and paste facilities.



■ **Traditional music notation is fully supported, if you can read it.**

One other feature is its ability to remember a 'live' mix down. You can alter the tempo in real-time, switch tracks off and on and the program will remember these and play them back just as you did them. It's a bit disappointing that it does not take advantage of the internal Amiga voices. One for the update, mes amis.



■ **Selecting a track for editing.**

The only other minor niggle is that it uses traditional note editing and on the display for each track it will only show a monophonic line of notes at a time. You quickly get used to this, though. The quantization could benefit from a few more options than just the basic note-on, too. Criticisms apart, this program is definitely my pick of the month.

Amiga should ideally be able to manipulate these as part of the musical chain: it should be able to use these sounds within the sequence.

Sequencers have evolved standardised ways of displaying and controlling the information. The display on the main screen should have a track listing: these may well be named by the user. Other information such as length in bars, instrument name, and part which the track is playing, viz; Bass 1 – Channel 7 – MT32 – 17.00.00. This tells me that the bass part is on MIDI channel number seven, connected to a Roland MT32 tone generator and is not 17 but in fact is 16, yes, 16 bars long, because the beginning of the first bar is numbered 1 (think about it!)

Recording and editing

The controls are usually laid out like those of a tape deck and suitably designed to look like them: fast forward, rewind, play and record. Sometimes there is an additional fast locator which either fast forwards at at hyperspeed or runs to a preset locator.

Most multi-track tape recorders allow you to 'drop in'. That is to say, you can enter and record at a specified point in a track and exit again with disturbing the data that occurs before and after. The ability to 'drop-in' which is also called 'punch-in' is relatively simple for a sequencer and should certainly be part of the specifications.

Your sequencer should be able to let you edit the notes you have input. To do this you will need some sort of visual display of the events. At the worst, which usually also means the cheapest, you have a whole screen full of numbers scrolling from top to bottom in neat columns, all of which adds up to a major editing headache. Each row across will refer to a note or other event. Your task is to sort out what that string of numbers means in terms of sound. Accurate it may be, user friendly it ain't: it's about as much fun as slitting your wrists with a banana. Because you need to hold a translation of those numbers in your head.

Why not display traditional music notation? Well, that's OK if you can read music accurately, but it is actually not exact enough for the notes. I could launch into a long harangue about music notation and freedom of interpretation but suffice to say that music notation is merely a script the player has to enact. With a sequencer we are seeking to capture the actual performance so therefore greater accuracy is needed.

An accurate and easily-understood form of graphic notation is needed. The established way of doing this is by using oblong shapes fixed to a moving graph. The length of them determines the length of the note and the background on which they are displayed has lines on it to show the position in which they occur in time. Usually you can click on any oblong/note and drag it about, either altering its position in time or its length depending on which part of the shape you hit. Sophisticated programs have this display running alongside a data stream so that you can translate from data to shape and vice versa. You can also see the other things like velocity and after-touch as well.

Achieving perfection

But suppose that your recording is nearly perfect, but significantly and audibly inaccurate? To go through and nudge each note into line would take an age and a half. If this were the case then sequencing software would be little better than the tape recorder. But since the data is digital, then a little maths applied to the data can automatically line it up. This is the feature known as Quantizing. New types of quantization occur with virtually every piece of sequencing software and large confusions arise. However the basics are very simple. The user is asked to what nearest value the notes are to move up to.

Let's take, for example, a bass drum that plays on every beat of the bar. In some bars you (as the user) have taken it away from the beat a little. To fix this ▶

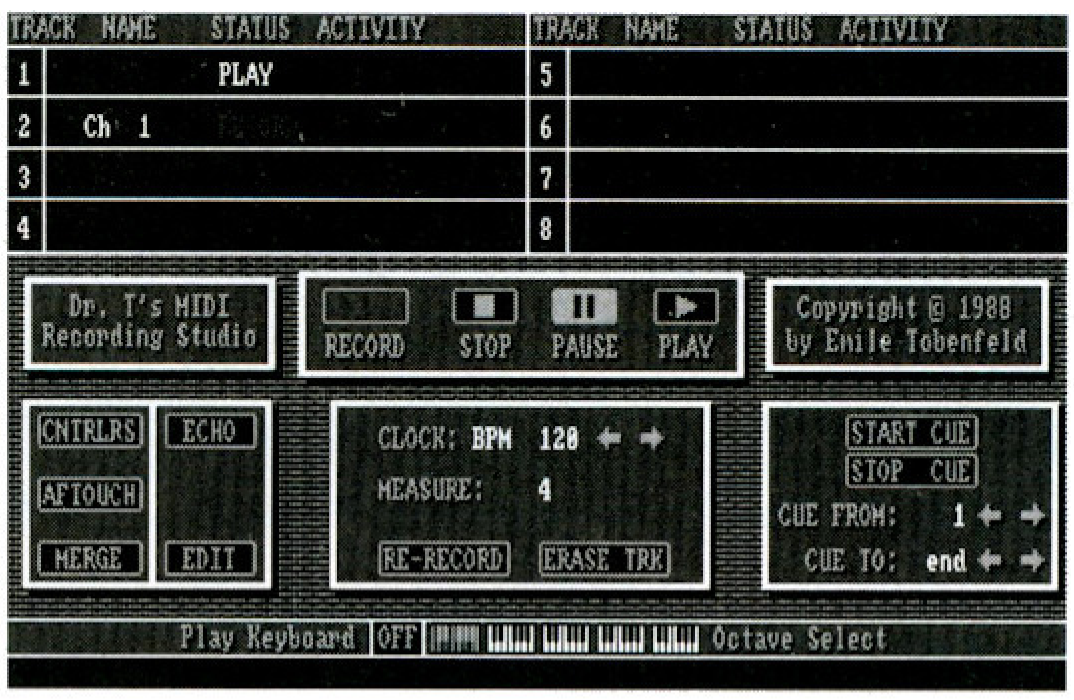
MUSIC RECORDING STUDIO;

DR T £49.95MCM 01 724 4104

Originally conceived for the PC, this eight-track MIDI recorder is not a bad introduction. On booting up, you see the main screen with eight tracks on display and record flashing away in the first slot. Fine. Record merrily away and when you finish click on the right mouse button: the program halts a little then plays back your efforts straight away. Record flashes away on Track 2 now. You will then find that you can't record beyond the length of Track 1. What a dumb idea! The well-written guide happily tells you this with all the aplomb of an insurance claim clerk pointing out the small print. You can't even type in a silly amount of bars so as to give yourself a bigger bite of the cherry.

Flip to the edit screen and sadly we are faced with a long string of data. Now I will gladly admit that the options that you can apply to this data are quite laudable. It will cut and paste, delete, clear, reverse, alter the timing, and gradually increase or decrease the velocity and timing as you wish. These functions are all best handled by numbers: in fact it is the only way you can sensibly handle them. However, when it comes to note lengths and manipulating the quantization and notes it is a real serious pain, and no mistake.

It is quite surprising that whilst it can cope with the functions mentioned above, the quantization is quite basic. There is no automatic back-up in case you don't like the correction value you have set which makes experimentation a long-winded process. The correction values are fractions of 96, so to correct the notes you find yourself flicking through the manual for a conversion table to something resembling note values you understand. Why not simply have the musician's values on screen and not the programmer's more complicated mathematics?



■ **Recording a part on Track 2: but it won't be longer than Track 1.**

You can alter the start of the note and the duration of the note together or separately although the manual is long-winded in putting this point over. Having said that, it is incredibly detailed in what I would consider fairly minor functions of a sequencer: the ability to invert pitches, reverse whole melodies and also split tracks either by note assignments or by separating non-note events such as pitchbend from the actual notes played. All this is fairly heady stuff.



In the final summing up, *MRS* is very detailed and comprehensive in some areas but they may not be the immediate areas that a novice would want. I liked the ability to put the whole program on the back burner while running another program which could be another music utility, and I though it was a reasonable idea to allow use of the qwerty keys to record notes, although I would recommend this only for touching up parts. The annoying things were the quantize and the editing data stream.

I liked the use of internal samples but really loathed the idea that the whole piece was determined by the length of your first input: very restricting. It is possible to fool this by pretending to clear the track first and then entering an inordinate number of bars to allow you a fair amount to go at. All in all, not my favourite of the three.

you ask the program to correct it to the nearest beat, shown either as a traditional crotchet/quarter note (European and American terminology respectively) or simply as the number four.

Provided that you haven't been grossly inaccurate you should end up with a spot-on four beat to the bar bass drum. Gross blunders will result in gaps on the pattern, because if you have erred too far towards the preceding or following beat the program will adjust the note accordingly.

These are the basics. There are plenty of other quantization values to choose from. But the plot thickens. All we have done so far is to move the starting time of the notes. The ending of the notes will be the same as it always was. Right, so it would make sense to offer the user the choice of either correcting the whole note and thus moving its position without altering the length, or adjusting the start time and thus alter the lengths, the position of the ending remaining the same.

The choice of quantizing formulae can be amazing. You can have everything of one particular note value, no notes above or no notes below a certain value, you can even quantize things such as pitchbend and note pressure so that they, too, occur evenly. The latest is the 'humanise' factor into which you can set a degree of inaccuracy so that the track is not exactly mechanically on the beat.

It is important that the edit screen allows you to hear the edited version and there is some temporary buffer that holds this new version so that you can return to the old if necessary.

MIDI options

MIDI records every action that takes place on the instrument: changes of touch, finger velocity, timing, volume, pitchbend, modulation. This should be faithfully reproduced by the sequencer and capable of fine tuning. There are no compatibility problems with MIDI interfaces and the Amiga: any interface will run with any software. There are 16 channels of MIDI to go at which in theory should give you control over sixteen separate instruments. However, watch out for coming developments which will give the ability to control more than one string of 16 instruments, all from within the same program.

Building a Piece

Having recorded the separate parts of your song you should then be able to chain them to flow one after another using some sort of arrange mode. Oh, and while we are talking of recording the parts, I have never really been in favour of programs that ask you to specify the length of the particular part you are about to record: they tend to stifle the creativity.

Obviously you will need to save your efforts. There are a couple of options here for the Amiga. You could use the IFF format, you could use a MIDI file format or you could save it in the format specific only to that piece of software and relatives. Sampling software nearly always saves in IFF, but this is not true for current sequencing software, which tends to save it in their own sweet format. That's fine until you upgrade to a superior program. To work on your old material you will need to transfer it via MIDI to your new program and then save it. This can be achieved by using a friend's computer to run your old program and tunes and then interfacing the MIDI of the two machines and re-recording the tune from one machine to another. Another way is to use a separate dedicated sequencer, which records your original program, holds it while you boot up the new one and then plays it back to be re-recorded into the new one. Pretty tiresome. ■

Dawn of a New Era

We are in the dawn of a new era as far as sequencing programs go for the Amiga. Instead of seeing older programs merely crossed over to the Amiga, we are starting to get programs that are either written exclusively for the Amiga or ones that when they are re-written have extra sections added to take advantage of the facilities that the Amiga has to offer, usually by way of multi-tasking and using the internal voices.

On the test bench this month are three programs. There were two more planned for inclusion but unfortunately, for one reason or another, they failed to materialise. One was *Music X*, which is the subject of legal injunctions and litigations at present regarding its distribution in Europe. I have seen the demo and it is quite staggering, with complete sequencing, including graphic notation scrolling as you record, playing both internal and external sound sources. It will also program the voices of other synths via MIDI without having to re-boot the program. The other was Steinberg's *Pro 24*, one of the world's most successful music programs now written for the Amiga. Delivery was put back by a month owing to difficulties in the disk protection module. While the release date of *Pro 24* is as yet indeterminate, we will be bringing you*Music X* in a big way next issue.

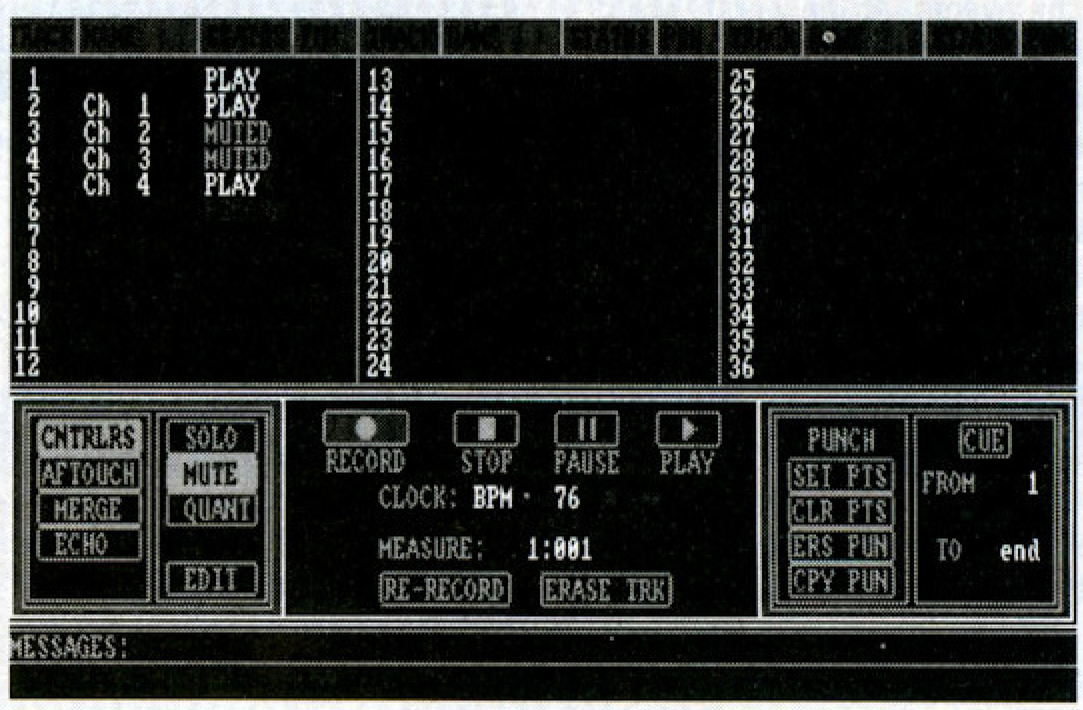
In future issues I'll be running tutorial sessions on sequencing as well as other music-related subjects. Hang on to those back issues; I shall be asking questions! In the meantime, any questions or queries you have, send them to me at the usual address. Next month we take a look at the basics of voice creation and how this can be best put to use.

KEYBOARD CONTROLLED SEQUENCER (KCS)

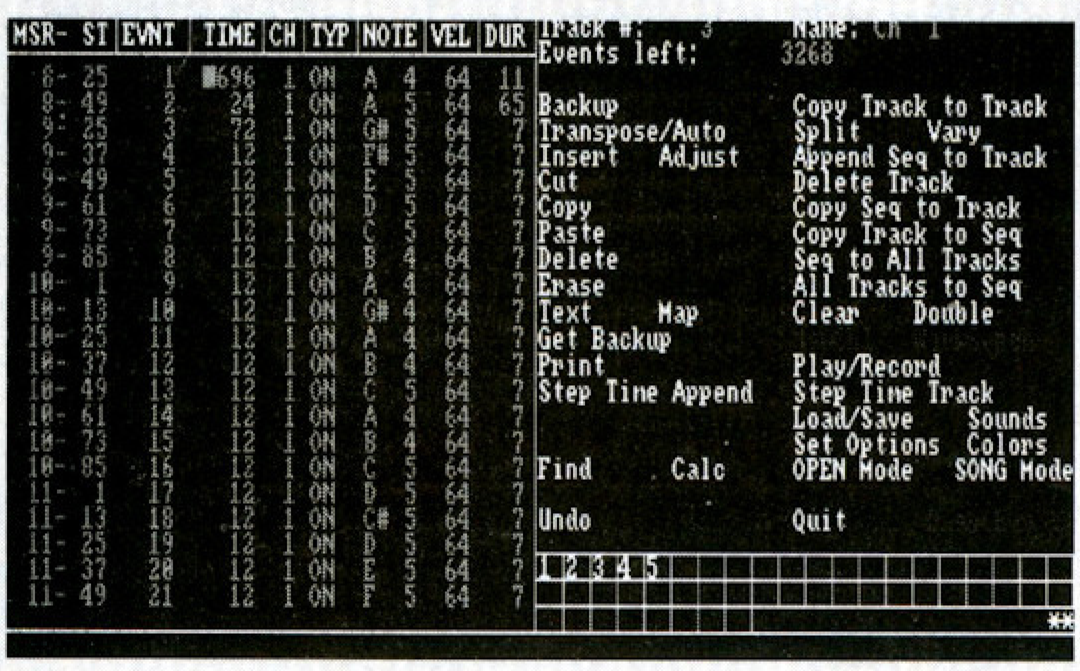
VERSION 1.6a DR.T. £159.95 MCM 01 724 4104

This is the father of the *MRS* system and in essence suffers with the same inherent design faults. It is bigger and better in that it has 48 tracks to record on. It also has features like punch-in and punch-out, a step-time recording option and the ability to merge tracks. Sequences recorded can also be chained together using a song mode, which is the same as an arrange mode.

The more expensive *Level Two KCS* can generate variations on tunes and combine small segments of music in larger pieces if you so wish. Make sure that your version has the 'a' suffix. This is an indication that it will also sequence Amiga internal sounds. The files for *MRS* can be loaded into *KCS* should you wish to upgrade and they are all compatible with other Dr T software such as the *Copyist*, which is a professional-quality scoring package. They will run with all MIDI interfaces, which is absolutely vital.



■ **Selecting the track to record or edit: in this case, record on Track 6. Note the record and play icons in tape-recorder fashion.**



■ **Editing a sequence, displayed in the form of a string of data.**

UNTAMED EXCITEMENT ON OFFER WITH VIRGIN'S *GEMINI WING*



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The first prize is the Canon Sureshot Ace camera, four tickets to the zoo, a copy of the game *Gemini Wing* and a poster as well. 10 runners-up will get a copy of the game and a further 25 winners will receive the *Gemini Wing* poster. The tickets will be to the zoo of your choice, so you won't have to travel all over the country to use them.

QUESTIONS

1. How do the number of bones in the necks of a giraffe and a man compare?
a) The giraffe has more bones.
b) The man has more bones.
c) They have the same number of bones.

2. Where would you find marsupials?
a) The Arctic.
b) Australia.
c) Sainsbury's.

3. What does the word hippopotamus mean (from the Greek)?
a) River horse.
b) Wide mouth.
c) Water-dwelling sun basker.

RULES

Employees of Future Publishing and Virgin/Mastertronic are not allowed to enter. The judges' decision is final. No correspondence will be entered into.

HOW TO ENTER

Write the answers on the back of a postcard or stuck-down envelope and send it to: Gemini Wing Comp, *Amiga Format*, 4 Queen Street, Bath BA1 1EJ. The entries should reach us by September 18th and don't forget to include your name, address and phone number on the postcard.

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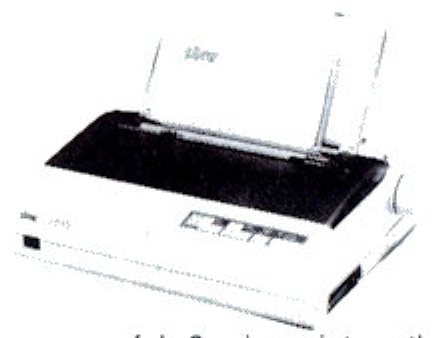
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FORMAT LETTERS

After an overwhelming response to Issue One of Amiga Format, Bob's managed to 'Wade' through a massive pile of your contributions: and three have earned a prize of an Amiga Format T Shirt and binder. You, too, can win these much sought-after consumables: simply send your ideas, problems, disasters, humour, criticism, offers of money etc. to Bob Wade, Amiga Format Letters, 4 Queen Street, Bath, BA1 1EJ for our Editor to practice his Origami with...

BACK TO BACKING UP

Perusing Issue One of *Amiga Format*, I noticed an advertisement on Page 22 which mentions a 64 emulator for £55 halfway down the page.

I recently upgraded and have a lot of Commodore 64 games which I used to really enjoy playing. I didn't know there was a 64 emulator, so could you please tell me of anything else that will give me backups of my collection?

On Page 23 of *AF 1* a program called *X Copy* is advertised. Do you know if this is any good, or of anyone who could answer my question?

I know we need laws to protect software from pirates, but now is the last chance for any of us who just want to make backups for personal use to do so.

Karl Drinkwater
Manchester

Yes, you can believe your eyes: there is a 64 emulator. However, you are better off playing on your 64 if you've still got it, because emulated games run slower on the Amiga than on the 64.

As for backing-up devices becoming illegal, it looks as though the legislation being passed is not watertight. Devices or software that might possibly be used for legitimate purposes will not be illegal, apparently. Which just goes to prove that even when the government does pay attention to the computer market, it still does not know what it's doing. How many MPs do you think know a ROM kernel from a walnut?

IN A BIND

I've just read the first edition of *Amiga Format* so I thought I'd just contribute a few words of wisdom. Overall, the magazine hasn't changed much, thankfully, but there could be a little fewer games pages. It's not that I'm against games. On the contrary, I spend a great deal of time whacking my joystick around the place but if I want games reviews then I read a games magazine.

It's a pity that *ST/Amiga Format* ended at Issue Thirteen since only twelve fit in the *ST/AF* binder! Perhaps you could produce some stickers to cover up all the 'STs' in the magazine and on the cover and we Amiga owners could rip out any ST articles thus renaming *ST/AF* Issue 13 as *Amiga Format* Issue Zero! Are *ST/AF* binders still available? I'd rather have one of them than put all my old issues in the new *AF* binder? Is there any discount on the old binders... heh heh?!

Chris Clifford
Neath, West Glamorgan

Tragically, the old ST/AF binders have already sold out – so no chance of scabbing a freebie there I'm afraid. If you insist on ruining Issue 13 of ST/AF then use liquid paper – it will be far cheaper than stickers. Alternatively get yourself a pair of ST-sensitive sunglasses that go black at the sight of the letters 'ST'.

NOT GENTLE LET DOWN

Just a few lines to say I wasn't over impressed by your first issue of *Amiga Format*. The mag is about right, although 16 pages smaller, and I am concerned that 14 pages were Game Reviews against 11 pages in *ST/AF* 13. It is too easy to pad a mag with such stuff.

The disk, old son, was a big let down. Greg Ingham said, 'Readers will get twice the amount of programs on disk...', and I expected you to pull out all the stops for your first issue to show us what we could expect in the future, the aspect of which is decidedly less than rosy if this disk is an example. When compared with *ST/AF* 13, which had a game demo plus three other programs, the new Super Disk had a game demo plus four other programs, one of which, *Vilbm*, you had already supplied in Aug '88!

As a regular reader from Issue One of *ST/AF*, I very nearly sent you a subscription order for your new mag, on the strength of this one I'm glad I didn't. You have to realise that it is the Disk alone that tempts readers to shell out £3.00, without it the mag is worth no more than £1.50. It is in your best interests to preserve the integrity of the Disk contents, which until now, has been very good. Apart from the program *Trackmon*, I shall bin this one straight away.

Tony Melling
Hyde, Cheshire

The 'decrease' in issue size is deceptive. Every single page of AF is for the Amiga – unlike ST/AF where there was a considerable amount of ST coverage that was no use to an Amiga owner. So although the issue size was 16 pages smaller, you got a lot more Amiga info for your money.

As for the disk — well, there's no pleasing everyone, obviously.

DEMOS, WIBBLE, KICK OFF, WIBBLE

You told me to write in, so I have. An excerpt from my questionnaire was printed on page 107 of Ish One. I didn't like the game *Wicked*, because it didn't grab me. I know it was only a demo, and you can't really tell what the final product would be like, but it was just boring! Most game demos aren't anything like the end product, as there are usually a number of changes made. Take for instance the *Purple Saturn Day* demo. It wasn't even

playable. It was just a pretty looking demo. When I played the game at our local computer shop I thought it was terrible. All it is is four games with near to nothing gameplay, covered up with amazingly pretty graphics!

I suppose the problem before was that half of the disk was for the ST, and after a naff game demo for the Amiga, there was not much room for anything else, but all that has changed, for the good!

The other thing, I suppose is that you get loads of dosh from the company which produces the demo for you, nod, nod, wink, wink, know what I mean?

If you did classified ads you'd have to be careful, as in *ZZap!64/Amiga*, they say that they will not print ads from pirates. Yet you see in the penpal section ads like 'Amiga Contacts Wanted to Swap latest Software', it never mentions original software, and if they aren't swapping copied software, then I am a yellow banana with six legs and a beak, and called Andy Smith!

There is one thing I totally HATE in a computer magazine, Role Playing sections such as the one in *C&VG*, and articles that creep into computer magazines that aren't relevant such as comic reviews, and book reviews about 'The revenge of Batman's wooden leg', and 'Killer Wax Candles of Mars'!!

I would just like to add that I have ignored all of the Amiga only magazines that are out, because I think they are terrible, and I reckon you have got the content 100% correct. *Amiga Format* is what I have been looking for in an Amiga magazine for ages.

I have got to get this final niggle off my chest. It's about *Kick Off*. I like the game in general, but there are many flaws. Why is there no offside? If there had been an offside I would have won every game. Why does the goalie keep lobbing the ball out to one of my players, when he is surrounded by about 5 Ruskies? Why is it, when he eventually kicks it out, it ends up at the feet of the opposition?

The only thing I have so far perfected on this game is fouling the opponent, which I have got off to a fine art! Why is it you end up controlling the man furthest away from the ball? Why is it that the goalie never comes out of the 6 yard box? Why does the goalie never save the easy shots, but always saves the hard shots?

Once I shot the ball and it went just inside the post, but the computer said it was a goal kick. On the league game, passing is almost impossible because as soon as you try to press fire to pass, the other side has tackled you! The only team I have ever beaten is the Froggies as these are the slowest team, even slower than England!

Julian Smith
Sheffield

PS I liked the game demo for once, the stuff on the disk was excellent. My T-shirt size is medium. I'd like a white binder, plus a free sub, and a yellow Ferrari with specialised licence plates of 'IAM-UPEE'.

I liked the game demo as well. I thought the disk was excellent too. My T-shirt size is large. I'd like an orange binder with blue stripes, plus a free frigate, and a green Skoda with personalised plates reading 'NO CHANCE'.

As for the minor 'bug-ettes' in Kick Off *– most of them are quite entertaining and don't crash the game. Offside is for cissies – maybe you should take up netball instead.*

☆ PRIZE LETTER

COMPACT AND BIJOU

It's time I voiced my frustration over the lack of development of Compact Disk Drives or CD-RAMs. We all know they exist, but why aren't they being mass-produced?

Third Coast released a 12-inch CD Read/Writeable back in May for the Atari ST, but at just under £5,000 what use is that?

If it is possible to produce a CDV 12-inch player for under £500, it must be possible therefore to produce a machine with the extra circuitry to enable it to act as a VCR and Disk Drive for under £1,000?

If I were designing the new machine I would add a little extra hardware to give it more appeal to a wider range of buyers. These would be as follows: all the features a top-of-the-range video would have, eg fast teletext, picture in picture etc, at the flick of a switch it would act as a hard drive. The best feature I would add would be the ability to mix RGB Computer display with RGB, D-MAC or CDVideo and record it on another Video Disk Recorder. It's quite easy to do – simply have 2 Scart Connections on the back of the machine to act as input signals and a D-Socket (like the Amiga's monitor out) and a Rotary dimmer-type Control to mix the displays, ie have TV on the left and computer on the right and in between the perfect overlay fade control just like Balance Control on your stereo.

This would in effect be a standard machine wanted by just about everyone. I really can't see any reason why this machine could not be built within a year, and at around £1,000 loads of people would invest in it.

If anybody feels the same way as I do, please write in and maybe we can give Sony and others an incentive to make a machine to my specifications.

Dickon Channing
Aberdeenshire

There are some great ideas there: the trick is to get anyone to take notice of them. It's a nice alternative view along the same lines as the Dream Machine article. Let's hope at least some of them get incorporated. Have a T-shirt and binder.

FORK OUT

The free disk is now improved. I disagree strongly with Julian Smith who, in your letters page, said no demo games. I think that these are an addition to a review because we can try out games before forking out £20-plus (not all shops allow us to view a game before buying.) *New Zealand Story* was great!

Do you intend running a series giving help on music programming? By this I mean using a package like *Sonix* and showing how to program a composition with a bass line and drums (and without the use of MIDI).

Craig Thornton
Lincoln, Lincs

Music programming is very much on the cards but obviously we can't deal with all the software at once, so you will have to be a little patient.

☆ PRIZE LETTER

ILLOGICAL, CAPTAIN

Firstly, may I congratulate the production team on a thoroughly good magazine, offering everything to everyone. But may I ask why the magazine cannot be constructed in a logical format – ie, a section for the programmer with reviews of new compilers etc, a section for the semi-business user with all new business based applications, another for the out-and-out games user, and finally a section for adverts. I feel that I, as a computer dealer and user, would like to look at the parts of the magazine that would interest me first, then scan through the rest of the mag for other inputs. At present *Amiga Format*, and every other mag on the market, is a hotch potch of articles for users of various ability and adverts.

Computing is a logical hobby/way of life – why can nobody create or edit a magazine to show the distinct areas of interest in their own subsections, without running interesting articles into adverts/games/hardware reviews. Please keep the letters section to a high priority since the readers are the people without whom you would be looking for another job.

I also feel that another interest would be a day by day guide to system creation and expansion. There are very few dealers who would have sufficient time to spend answering questions about what to do, what to buy, and where can I go from now, and this is only due to the cut throat marketing ploy of some hardware/software dealers. The margins are not there to spend the time on the end user any more, especially where the games-user wants to expand to bigger and better things.

You must remember that these 68000 based machines are far more than an expensive toy, they have tremendous uses beyond the myriad of games on the market. If the trend in the UK was towards showing the end users what was available, and how to get there in 10 easy lessons, then I feel that there would be a lot of people who used computers for more than just games.

Why is it that US magazines show off the business software as much as the games software – answer – since there are many users interested in the machines as a home office, home account helper they show off what's available. Making the end user aware of these features would open up a new field for the magazines with an endless source of editorial material.

Tony Rayer
Barry

Logical it may be, but it creates ghettos which can repel people. Make any section too specialised and the majority of users who, as you say, use their Amigas for all sorts of things, will feel left out of a section because it's not aimed specifically at them. Far better to keep things more open and friendly, allowing everybody to pick and choose what interests

them. Nevertheless, the issues you raised were all interesting and thought-provoking, though – have a T-shirt and binder.

HOW GREEN IS MY MAGGY

Can you do an article on how *Format* is put together, from the editorial stages right to the printing of the mag?

New Computer Express and *Format* are enjoyable to read and I like *NCE* on the chlorine free paper. What about *Format?*

Oh, why doesn't Jason use a cruncher programme on the cover disk? It will give at least 30% extra disk space.

Gary Fenton

Write a mag about writing a mag - surreal. Chlorine-free paper would be nice but all those lovely screenshots would not look half as nice. Jason does use a cruncher on the disk and we hope he will start using it on his wibbling.

☆ PRIZE LETTER

WARNING, WARNING, DANGER APPROACHING

I have a problem that occurs intermittently since I got my A500. The machine seems to be particularly highly-strung, and as such takes moods when it just doesn't want to do anything. One way it achieves this is by swearing at you with a damn great red alert box at the top of the screen, occasionally being civil enough to let you save your valuable data to disk.

The other, and perhaps more frustrating, way is to just not let you do anything with either the keyboard or the mouse at all (although the disk drive still appears to function!) Perhaps you can tell me what it is that I should avoid doing in future?

I am a very practical kind of computer user, and I would have thought that, as Commodore has aimed this machine at a quite broad spectrum of users, they should have made it more or less idiot proof, instead of which anything remotely illegal seems to crash the whole system. Surely I am not the only one who finds it less than satisfactory to have so much of the hardware relying totally on the actions of the user?

It seems to me that good though the machine is, there are far too many features that are not able to be readily utilised (such as function keys), and not enough safety devices to cope with whatever it is that causes these frequent software failures. It would also seem sensible to me to have allowed an icon for the printer so that files and output could be 'dragged' to it in the same way as we drag them from disk to disk.

This is just one of many examples of things that should have been included with the machine so that they are available to you if you so wish.

Niall Davies
Midlothian, Scotland

An idiot-proof computer, now there's a novel idea. All you would need to do is supply it in an unopenable rubber box. T-shirt and binder on the way – both are idiot-proof.

EMPIRE STRIKES BACK

Please, please, please could you print this plea to the nation. I'm starting up a game of *Empire* on the Amiga and so I need a few Amiga owners to contact me who wish to play.

If you've never heard of Empire before then it's not so much an adventure but more a multi-player game of politics, economics and war. Put simply, it's a game where you control your land strategically and try to wipe out the other countries, ie the other players.

A typical game can last about three months. It's not the kind of game for all you arcade freaks! If any readers are interested, then they can get more details by sending an SAE to this address:

Chris Clifford Empire Query
54 Wern Road, Skewen
Neath, West Glamorgan
SA10 6DL

If you do print this plea then thanks for your help – I may even name a country after you!

Chris Clifford

'Ere wait a minute, Chris Clifford, you've been on these pages already. It's not going to get you a prize you know – three or four countries required for that.

INFECTIOUS DEITY

Help! I've got a virus, I think. Maybe it's a practical joke by the programmer.

Anyway, there I was playing God and having a great time bashing the opposition (you guessed it, *Populous*) when this green bug about 1/2 inch in size started to crawl up the screen. I had to follow it to see what happened. Nothing. It just got to the top of the screen and vanished. As no damage appeared to have been done, I ignored it. Then, a few days later, while conquering another world, something appeared on the left hand side of the screen. This time it was a little wizard on a flying carpet and he was throwing stars to the left and right. When he crossed to the right of the screen, he vanished. Again no harm done.

Is it a virus? Or a gimmick by the programmer? Or am I just going nuts and seeing things? Nope. Both actually happened. Honest!

Walter Lane
St Ninian's, Stirling

It's not a bug or a virus – it's supposed to be there, and oddly, is similar to Virus, the game. The monsters appear randomly and move in straight lines, killing things in their path and leaving behind swamps, trees and stuff like that. Of course, this does not mean you're not going nuts – hope that sets your mind at rest.

SUPER HANG UP

I own an A500 running under Kickstart 1.2 which is just over a year old. I recently purchased a copy of *Super Hang-On* which refused to load. This was replaced by my supplier with another copy which again refused to load. This time I sent it to Activision who replaced and tested it on a machine with the same specification as mine before sending it to me. Again I had no joy so I got somebody else to test it for me on their machine and they had no problem.

Now I know I'm not alone with this problem but nobody seems to be able to offer any positive help. Activision say they think it's down to the disk drive, that I'm unlikely ever to get it to load and that they can only offer me an alternative game. Because I've been messing about returning copies in the belief that they're faulty, the warranty on my machine has expired and consequently the dealer I purchased it from doesn't want to know, suggesting another company to contact who say it's going to cost me around £50 just to get the drive looked at.

What I don't understand is why I only get problems with this game (so far). I've got around 50 others which give no trouble at all. Have Commodore used drives with different specs in some of their A500s or is their setting up of the drive alignment not all it could be? Alternatively, is the copy protection used asking the drive to do something marginal which mine (and others) fail on?

One thing's for sure, it's not the game itself. I know this because someone gave me a cracked version to try and this worked perfectly. How many other pieces of software will I be unable to use in the future because of the copy protection employed. It seems ironic that although I'm prepared to pay for this game, the only way I can run it is to use a pirated copy.

Stephen Thoman
Yatton, Avon

If software houses start using copy protection that demands too much of the majority of drives, you will soon see something done about it. There's nothing like angry customers and loss of business to get anybody into action.

A FEW SNIPPETS...

BIKEBUSTERS

Coming back from the newsagents I ran into one of my friends. We were both on bikes and collided. The first thing that sprung to mind was *AF* – was it damaged? Fortunately it was not, but my friend's bike had four broken spokes - two were ripped out.

Andrew Davies
Kilmacolm

We make 'em robust here at AF – a bike? No contest. Mike Tyson would have trouble surviving a couple of rounds with AF.

PARTICLE-WAVE DUALITY, MAN

I noticed a letter asking about quantum mechanics. I have written a program which solves the Schrodinger equation for a bound system. If you are interested let me know.

L West
Horsham, Sussex

You don't catch me out with all this wave-particle duality stuff – you are in fact Erwin Schrodinger's cat trying to get your own back for being stuck in the box all this time, and I claim my £5 prize.

LITERARY STRIP

You were wrong in pointing out that the only 'strip' games are poker games. There's a game called *Centrefold* which is a strip Othello. So there.

Eyal Teler
Jerusalem, Israel

Shakespeare must be doing 10,000 rpm in his grave... ■

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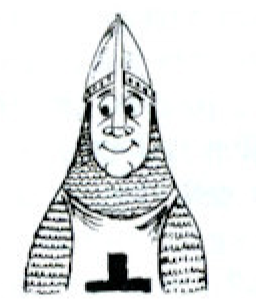
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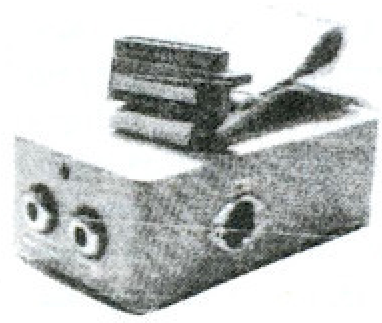
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ST: Oids demo, Virus Killer.
Magazine: Word processors evaluated, Graphics packages compared, Pro-sound, Superbase benchtested.

Issue 2-6 ■ SOLD OUT!! SORRY!

Issue 7 ■ Order Code AM207
Cover Disk: **Amiga:** Cosmoroids, play the game, MCAD design for your Amiga.
ST: Play Level One of Flying Shark, HiSTart, high quality ST art.
Magazine/Full review of Flair Paint, Colour Printers, Shoot 'em up Construction Kit, Learn Basic.

Issue 8 ■ Order Code AM208
Cover Disk: **Amiga**: Stunning scenery generator, Purple Saturn Day demo.
ST: Purple Saturn Day demo, Database construction set.
Magazine: Autoroute (the computer journey planner), Sculpt 4D, a modelling package, Protext (THE word processor for your Amiga then!), Cameron's Handy Scanner reviewed.

Issue 9 ■ Order Code AM211
Cover Disk: **Amiga:** Yelp, fully playable addictive game. **ST:** Jitterbug, a wonderful multi-player maze game.
Magazine: Buy a modem from our suggestions, Cel Animator for the Amiga put through its paces, Organise your day with Day by Day or Daatafax.

Issue 10 ■ Order Code AM210
Cover Disk: **Amiga:** Cybernoid II (playable demo), Learn Devpac 1.
ST: Zak McKracken (playable demo), Learn Devpac 1.
Magazine: Upgrade your machine with extra magabytes, Daatascan hand-held scanner from Kempston Samplers.

Issue 11 ■ Order Code AM211
Cover Disk: **Amiga:** Blood Money (playable demo), File requester, add requesters to programs.
ST: Archipelagos, playable demo, Fastmouse, speed up mouse operation.
Magazine: Make yourself a sound sampler, Deluxe Paint III, Animation tutorial, Why not invest in a better screen? Here's the choice…

Issue 12 ■ Order Code AM212
Cover Disk: **Amiga:** Colossus Chess, playable demo, TirusX V3.1 protect your disks against viral infection, Boot intro, add scrolling messages to your disks.
ST: Flair Paint, usable demo of this brilliant art package.
Magazine: Video digitising, Attach a midi system to your machine and make music, The best available joysticks.

Issue 13 ■ Order Code AM2113
Cover Disk: **Amiga:** Wicked, playable demo of this totally addictive game, Mandelshow, create infinitely complex pictures with this Mandelbrot generator.
ST: Spherical, an excellent playable demo of this strategy game.
Magazine: Pagestream, a brilliant DTP, Animation techniques, the reasons why, The choice of hard drives.

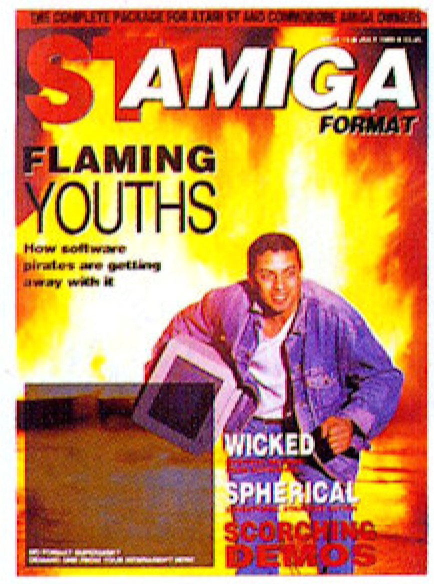
Amiga Format Issue 1 ■ Order Code AM2111
Cover Disk:: New Zealand Story, the playable demo. Plus Art Gallery and various utilities.
Magazine:How videos can transform your machine. Top Ten All Time Great Games. A-Max Mac emulator, the full review.











★ See some excellent reasons why you should subscribe on Page 58

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Guru's MEDITATIONS

KICK OFF CLIMAX

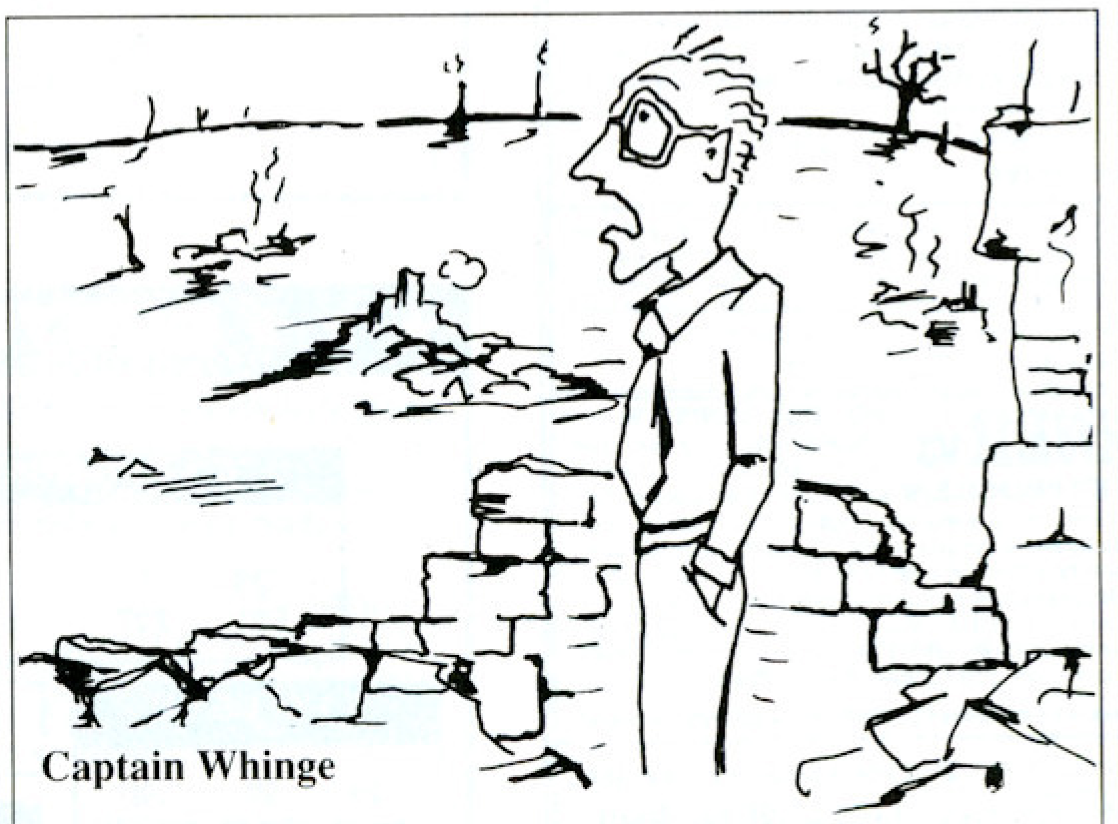
In a rousing finish to the season the big two from *Amiga Format* in *Kick Off* Division One met in the deciding game. Wade's Wibblers and Smith's Mahoons clashed head on in a winner-takes-all match. The Mahoons triumphed 4-2 to take the Championship: with the Wibblers in second place and Noonan's Nutters in third, this was a major triumph for *AF* over the other mags at Future Publishing.

After the match the defeated Wibbler was "gutted, absolutely sick as a parrot, Brian." Mahoon was unavailable for comment after failing to get over the moon but succeeding in getting out of his skull.

THE SECOND ONLY FUNNY COMPUTER JOKE... EVER

How many programmers does it take to change a light bulb?
None, they try to fix the old one.

Thanks to Andy Howard from Sound Broadcast Services in London for faxing us that one.



Captain Whinge

"...too high, I said, of course they're not too high, 25 quid for a game is far too low once you've taken into consideration the retail margins, distributors' margins, software house profits, authors' royalties, disk costs, wear and tear on shoes, bribes to journalists, cat food, trusses, the Peruvian national debt and the price of new toothbrushes they might as well be paying the public to take the games away, now serious software is much more realistically priced, give me a nice spreadsheet at 400 quid any day for real value for money, and as for the TV licence it's preposterously underpriced at £66, it should be at least £500 and the death penalty for any non-payers not to mention the dog licence..."

OH DEARY, DEARY ME

Big-bodge count for Issue One: two. The management expresses its sincere apologies for two glaring errors in Issue One. Some text at the beginning of the Music section was repeated twice. Some text at the beginning of the Music section was repeated twice. Also one of the screenshots on the Kick Off review was upside down. We would also like to apologise for the omission of the word 'dismal' from Issue One. The word 'shameful' did appear but this was clearly of little comfort. The fault has been rectified in this issue and we hope it will not be repeated.

UNCENSORED

After a spirited response from the readership, an overwhelming vote of 2-0 in favour of printing a picture of the *Amiga Format* team was received (what a response). The search is now on for a photographer brave enough to face the task and, after conciliation talks at ACAS, it should prove possible to assemble the team in one spot, without a fight breaking out, long enough for a picture to be taken. Watch out next month for the picture and a pair of 3D glasses to enhance the Editor's ears.

PLEASE SEND ME A FIVER: 2

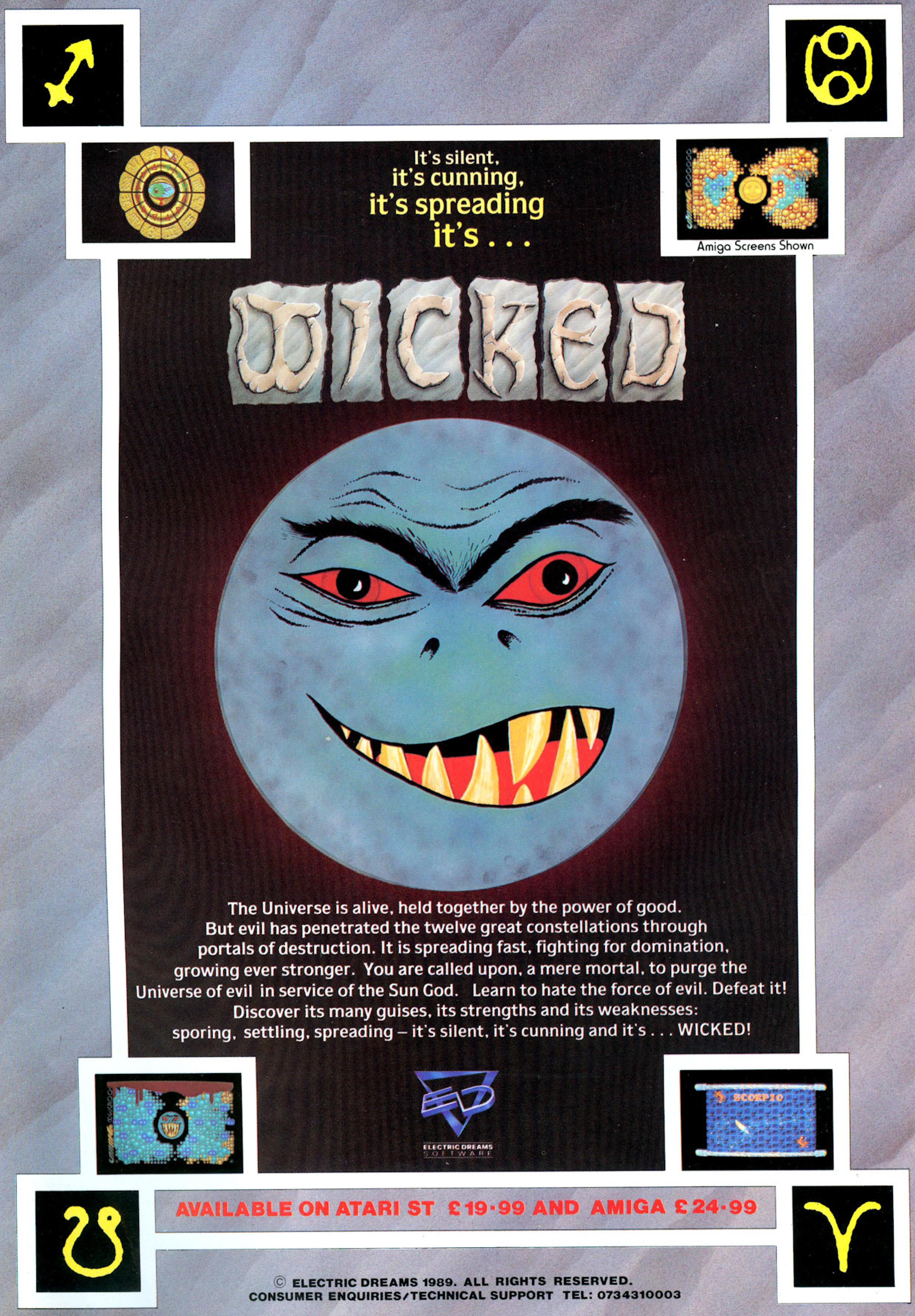
The fiver was nice, any chance of a tenner?

NEXT MONTH

...or what ought to be in next month's issue: but there's bound to be something that doesn't quite work out. Any inconsistencies will probably be due to the rail strike, phases of the moon, sun spots or seasonal variations in the temperature of the beer in Hatchetts, the pub.

Part Two of the DTP series looks at a couple of exciting new products. An educational special looks at the Amiga's role from several viewpoints. Reviews will include the Videocenter, Rombo's digitiser and the long-awaited *Music X* from Microillusions. The graphics tutorials will kick off with the *DPaint* series. And of course all the regulars like Screen Play, Workbench, PD, Gamebusters and Letters.

ADVERTISERS INDEX



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it's cunning,
it's spreading
it's . . .
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The Universe is alive, held together by the power of good. But evil has penetrated the twelve great constellations through portals of destruction. It is spreading fast, fighting for domination, growing ever stronger. You are called upon, a mere mortal, to purge the Universe of evil in service of the Sun God. Learn to hate the force of evil. Defeat it! Discover its many guises, its strengths and its weaknesses: sporing, settling, spreading – it's silent, it's cunning and it's . . . WICKED!
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